RESOURCE CONSERVATION
AND RECOVERY ACT (RCRA)
COMPLIANCE EVALUATION INSPECTION
for
Litton-Clifton Precision Instruments
and Life Support Division
2734 Hickory Grove Road
Davenport, Iowa 52804
EPA I.D. Number IAD005268420

Inspected July 13, 1983

Submitted by: PEDCo Environmental, Inc.
7331 Madison Avenue
Kansas City, Missouri 64114

Submitted for: A. T. Kearney
699 Prince Street
Alexandria, Virginia 22313

Submitted to: Jane Ratcliffe, Regional Project Officer
Joe Galbraith, Task Manager
U.S. Environmental Protection Agency
Region VII
324 East Eleventh Street
Kansas City, Missouri 64106

In response to: EPA Contract 68-01-6515
Work Assignment No. R07-004
PN 3597-17-4I

July 1983

INTRODUCTION

On Wednesday, July 13, 1983, Thomas D. Robertson of PEDCo Environmental, Inc. (an EPA contractor) conducted a RCRA compliance evaluation inspection at the Litton-Clifton Precision Instrument and Life Support Division facility located in Davenport, Iowa. Mr. Paul Bohnsack, facility manager of safety and security, and Mr. David Whitting with the Iowa Department of Water, Air and Waste Management participated in the inspection. The purpose of this inspection was to determine whether the facility was in compliance with RCRA interim status requirements and to verify and clarify information contained in its RCRA permit application.

At 10:30 a.m. PEDCo met Mr. Whitting in the facility parking lot and briefly reviewed a past compliance inspection report. The two inspectors presented credentials to the receptionist and requested to meet with Mr. Paul Bohnsack, the facility's designated contact person. After the scope and purpose of the inspection were explained, Mr. Bohnsack took the inspectors to his office where the administrative records were reviewed. A plant tour was then conducted and an exit interview held. Photographs that were taken are attached to this report.

RCRA INSPECTION

Unless noted otherwise, the following compliance-related observations are the only areas of concern:

I. GENERATOR STANDARDS, 40 CFR 262

A. SUBPART A - GENERAL

1. The facility had 12 drums in storage labeled as D002 corrosive waste with varying dates (10-82 to 6-83). It appeared that the labels originally indicated F007; however, at the time of inspection they clearly indicated D002. D002 corrosive waste does not appear on the applicant's Part A application nor does it appear on the facility's notification forms. 40 CFR 262.11

2. The facility had three plastic carboys labeled as waste acids (see Photo Number 3). This waste was comingled with their nonhazardous solid waste (metal shavings). Mr. Bohnsack could not explain why the carboys were located among the nonhazardous waste nor could he say if the waste was hazardous or not. 40 CFR 262.11

B. SUBPART B - THE MANIFESTS

1. The facility is not designating alternate TSD facilities, nor is it instructing transporters to return the waste if it is undeliverable as specified on the manifest document. 40 CFR 262.20

2. The facility is using preprinted manifest forms required by the states of Illinois and Minnesota. Each of these states has modified the certification required by 40 CFR 262.21(b).

3. The facility differentiates between containerized wastes that are in storage and containerized wastes that are in accumulation (see Photo Number 7). The containers in accumulation are not uniquely labeled, although a stenciled sign above the container indicates its content. The date upon which accumulation began is not marked, and the drums are not kept closed except when waste is added or removed. 40 CFR 262.34

II. INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT STORAGE AND DISPOSAL FACILITIES, 40 CFR 265

A. SUBPART A - GENERAL

1. Nine drums (see Photo Number 6) of waste at the facility were stored in an area other than that designated on the Part A application. The drums were all in excellent condition and were stored inside the shipping and receiving area. The dock storage area was not overly crowded. The nine drums included:

   - 1 drum of cyanide waste - F007 - dated 2/4/83
   - 5 drums of cyanide waste - F007 - dated 6/28/83
   - 2 drums of solvent waste - F001 - dated 7/6/83
   - 1 drum of solvent waste - F005 - dated 6/28/83

2. The facility had generated one drum of hazardous waste D005 and placed it in the storage area. This type of hazardous (barium EP toxic) waste does not appear on the applicant's Part A application nor does it appear on the notification form. The waste was inside a 110-gallon overpack drum. The label indicates that accumulation began May 17, 1983. It should be noted that less than 90 days had elapsed since May 17, 1983, and it was not necessary to secure an interim waste storage area.

B. SUBPART B - GENERAL FACILITY STANDARDS

1. The facility does not have detailed chemical and physical analyses of the waste acids and corrosive materials referred to in Sections I.A.1 and 2. 40 CFR 265.13

2. The facility has not implemented the inspection schedule presented in the Part B application nor has it documented that any inspections of the containers and container storage area have been completed. Fire fighting equipment has reportedly been inspected annually by the facility's insurance underwriters; however, documentation was not available at the time of the inspection. Security fences are reportedly inspected by the

facility's contact ground service (Pinkerton); however, documentation was not available at the time of the inspection. 40 CFR 265.15

3. Personnel training records were not available for the emergency coordinator or the designated alternates. 40 CFR 265.16

C. SUBPART D - CONTINGENCY PLAN AND EMERGENCY PROCEDURES

1. Neither the emergency coordinator nor designated alternates have authority to commit the resources needed to carry out the contingency plan. (See the emergency plan Section G of Part B application for limitations of authority.) Additionally, it was apparent that the alternate emergency coordinators were not thoroughly familiar with all aspects of the facility's operations, especially the location of records. 40 CFR 265.55

2. The facility has not formally established a procedure for designating an emergency coordinator to be on call after hours, during holidays, etc. 40 CFR 265.55

D. SUBPART E - MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING

1. The operating record does not address the location and quantity of the wastes referred to in Sections I.A.1, I.A.2, II.A.1, or II.A.2. Additionally, the record does not include inspection logs. 40 CFR 265.73

III. PERMIT-RELATED ISSUES

A. The existing storage area is stained and etched and shows signs of superficial contamination. (See Photos 4 and 5.) The area is not used exclusively for storing hazardous waste. All of the drums visible in Photo Number 4 contain solid wastes, primarily cutting oils being held for recycle. The inspector was unable to determine the cause or content of the stains that are evident in the pictures.

B. The company's training plan should be expanded to include the emergency coordinators. There is only one person in each of the job descriptions provided in the facility's January 27, 1983, letter to Harrington.

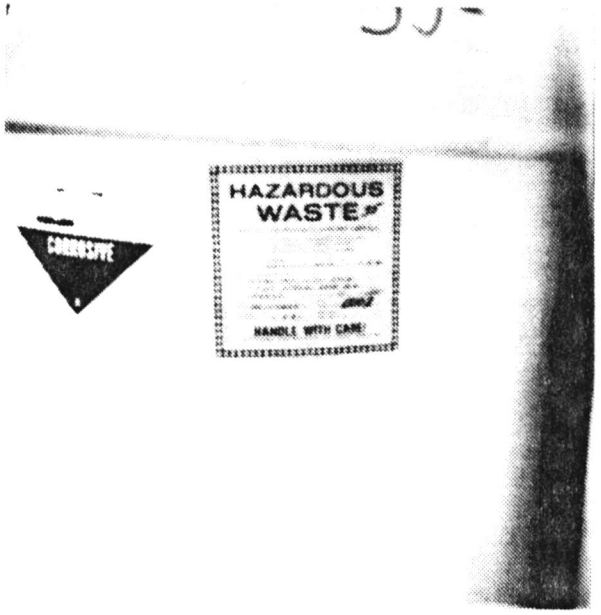
C. The Part B application should address corrosive waste management activities.

D. The application should specify the minimum secondary aisle space needed to allow proper inspection of each storage cell in the proposed storage building.

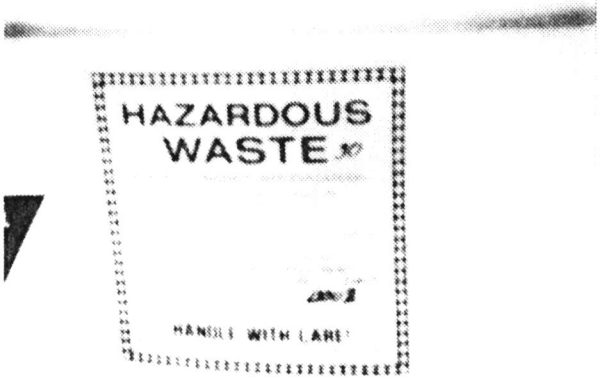
LIST OF PHOTOGRAPHS
LITTON-CLIFTON PRECISION INSTRUMENTS

Photo Number	Description
1	Shows label of D002 - corrosive waste
2	Shows label of D002 - corrosive waste
3	Shows plastic carbon of waste acid among drums of solid waste being held for recycling
4	Shows storage dock and stain on walls and driveway
5	Shows storage dock and stains, etchings of base
6	Shows drums inside of shipping and receiving area
7	Shows drums in the accumulation area

#1

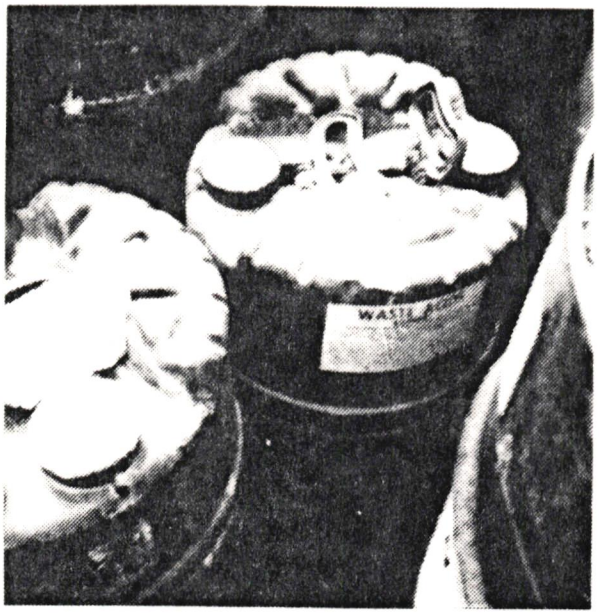

CORROSIVE
HAZARDOUS WASTE
HANDLE WITH CARE

#2


HAZARDOUS WASTE
HANDLE WITH CARE

ILLEGIBLE
DOCUMENT

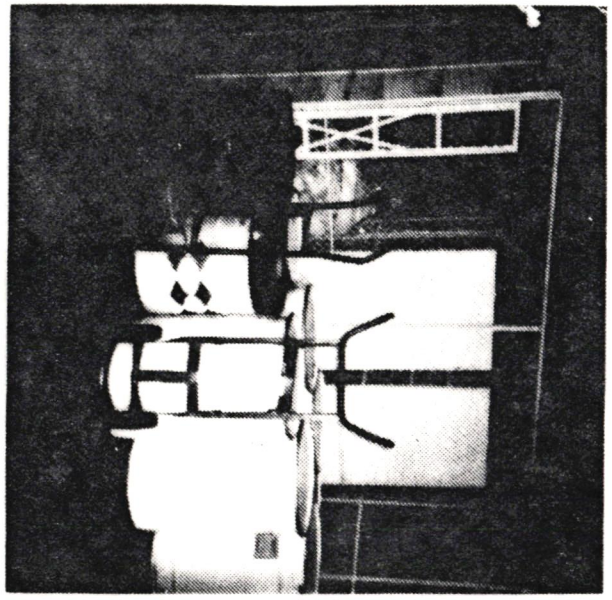
#3



#4

ILLEGIBLE
DOCUMENT

#6



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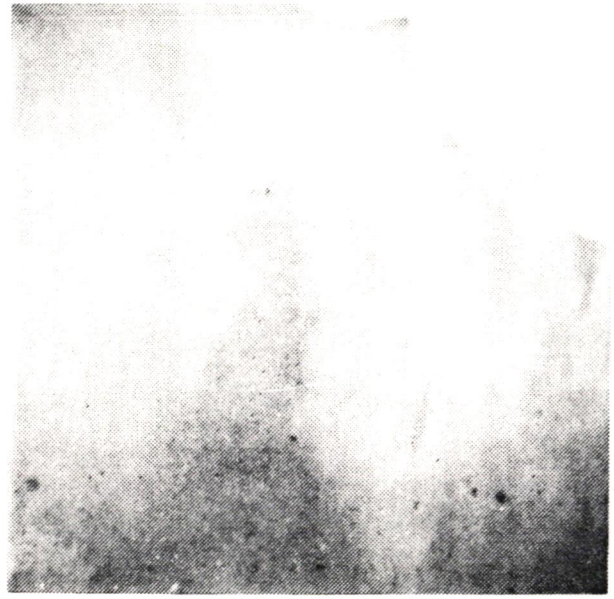
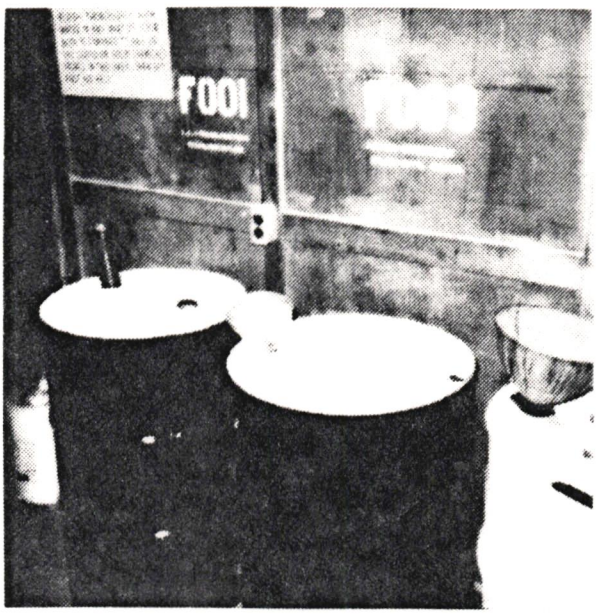


ILLEGIBLE DOCUMENT

#7



IOWA DEPARTMENT OF WATER, AIR AND WASTE MANAGEMENT
Report Of Investigation

INVESTIGATION DATE	
Current 7/13/83	Last 3/11/82

FROM: (Use Stamp)
Region No. 6
P. O. Box 27
Washington, Iowa 52353

TO: (Facility Name, Location & Address)
Clifton Precision
Paul Bohnsack, Mgr. Safety, Security & Univ. Relations
2734 Hickory Grove Rd., P.O. Box 4508
Davenport, IA 52808

Persons Contacted (Name & Position)
Paul Bohnsack, Manager - Safety, Security and Univ. Relations

RE: (Specify Investigation Purpose Or Cite Rule)
RCRA COMPLIANCE INSPECTION
IAD005268420

OBSERVATIONS/RECOMMENDATIONS

On July 13, 1983 a RCRA compliance inspection was conducted at Clifton Precision by Tom Robertson of Pedco, under contract with the EPA. The compliance inspection was requested by Mr. Dennis Degner of the Region VII EPA office. This inspection for compliance is prior to continued consideration of an application for permit by this facility.

Mr. Robertson presented his identification to Mr. Bohnsack and explained the facility's confidentiality rights; then proceeded with areas of administrative compliance. Several minor deficiencies were noted during the inspection and after the inspection at the pre-exit interview. Deficiencies noted were in the personnel training program, manifest records, in container inspections, in the waste analysis plan and in the operating record.

The storage area was inspected in the afternoon and was observed to have some evidence of leaking acid containers because the concrete was etched and corroded in a few areas where chemicals had been in contact with it. There were nine - 55 gal. barrels away from the hazardous waste storage area that were in storage; one barrel had been there since February of 1983; two barrels had been there since July 6, 1983 and the remaining barrels had been there since June 28 & 29, 1983. On the dock, which is the hazardous storage area, there were several containers (approximately 35) of material labeled as "waste oil". There were approximately 6 or 7 containers of metal shavings. Among these containers there were also two carboys of waste acid and one small jug of paint stripper. Separated from these waste oils by a few feet was a line of fourteen - 55 gal. barrels which are hazardous waste and which Mr. Bohnsack considers the hazardous waste in storage. These included one drum of EPA waste no. F010, one drum of EPA waste no. D005 and twelve drums of EPA waste no. D002. The containers marked D002 looked as though the D002 had been changed from F007. Mr. Bohnsack said that Waste Research & Reclamation recommended changing the F007 to D002.

SUSPENSE DATE	Signature	Date
	Inspector David N. Whiting — David N. Whiting	7/19/83
1 1	Regional Administrator Earl C. Voelker, Sr. — by Steve Hamilton	8-5-83

Enclosures (Specify)

Distribution: Regional Office: Central Office: Inspected Facility: Tom Robertson, Pedco: EPA, Reg. VII: Date Copy Mailed: 8/05/83 - w.

RP-5 (8-79)

Clifton Precision
IAD005268420

Generally speaking, the facility is managing its hazardous waste relatively well. There are areas of non-compliance that will undoubtedly have to be addressed prior to issuance of a permit. The hazardous waste storage area will undoubtedly have to be cleaned in some manner either with strong detergent cleaning or steam cleaning prior to closure of the hazardous waste storage area.

This writer also recommended to Mr. Bohnsack that one or more warning signs be attached to the cyclone fence facing the railroad tracks near the hazardous waste storage area.

DNW:w
xc: Tom Robertson, Pedco

IOWA DEPARTMENT OF WATER, AIR AND WASTE MANAGEMENT
Report Of Investigation

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Current 7/13/83	Last 3/11/82

TO: (Facility Name, Location & Address)

Clifton Precision
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July 1983

337029
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1. The facility had 12 drums in storage labeled as D002 corrosive waste with varying dates (10-82 to 6-83). It appeared that the labels originally indicated F007; however, at the time of inspection they clearly indicated D002. D002 corrosive waste does not appear on the applicant's Part A application nor does it appear on the facility's notification forms. 40 CFR 262.11

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1. The facility is not designating alternate TSD facilities, nor is it instructing transporters to return the waste if it is undeliverable as specified on the manifest document. 40 CFR 262.20

2. The facility is using preprinted manifest forms required by the states of Illinois and Minnesota. Each of these states has modified the certification required by 40 CFR 262.21(b).

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1. Nine drums (see Photo Number 6) of waste at the facility were stored in an area other than that designated on the Part A application. The drums were all in excellent condition and were stored inside the shipping and receiving area. The dock storage area was not overly crowded. The nine drums included:

   - 1 drum of cyanide waste - F007 - dated 2/4/83
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1. The facility does not have detailed chemical and physical analyses of the waste acids and corrosive materials referred to in Sections I.A.1 and 2. 40 CFR 265.13

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3. Personnel training records were not available for the emergency coordinator or the designated alternates. 40 CFR 265.16

C. SUBPART D - CONTINGENCY PLAN AND EMERGENCY PROCEDURES

1. Neither the emergency coordinator nor designated alternates have authority to commit the resources needed to carry out the contingency plan. (See the emergency plan Section G of Part B application for limitations of authority.) Additionally, it was apparent that the alternate emergency coordinators were not thoroughly familiar with all aspects of the facility's operations, especially the location of records. 40 CFR 265.55

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1. The operating record does not address the location and quantity of the wastes referred to in Sections I.A.1, I.A.2, II.A.1, or II.A.2. Additionally, the record does not include inspection logs. 40 CFR 265.73

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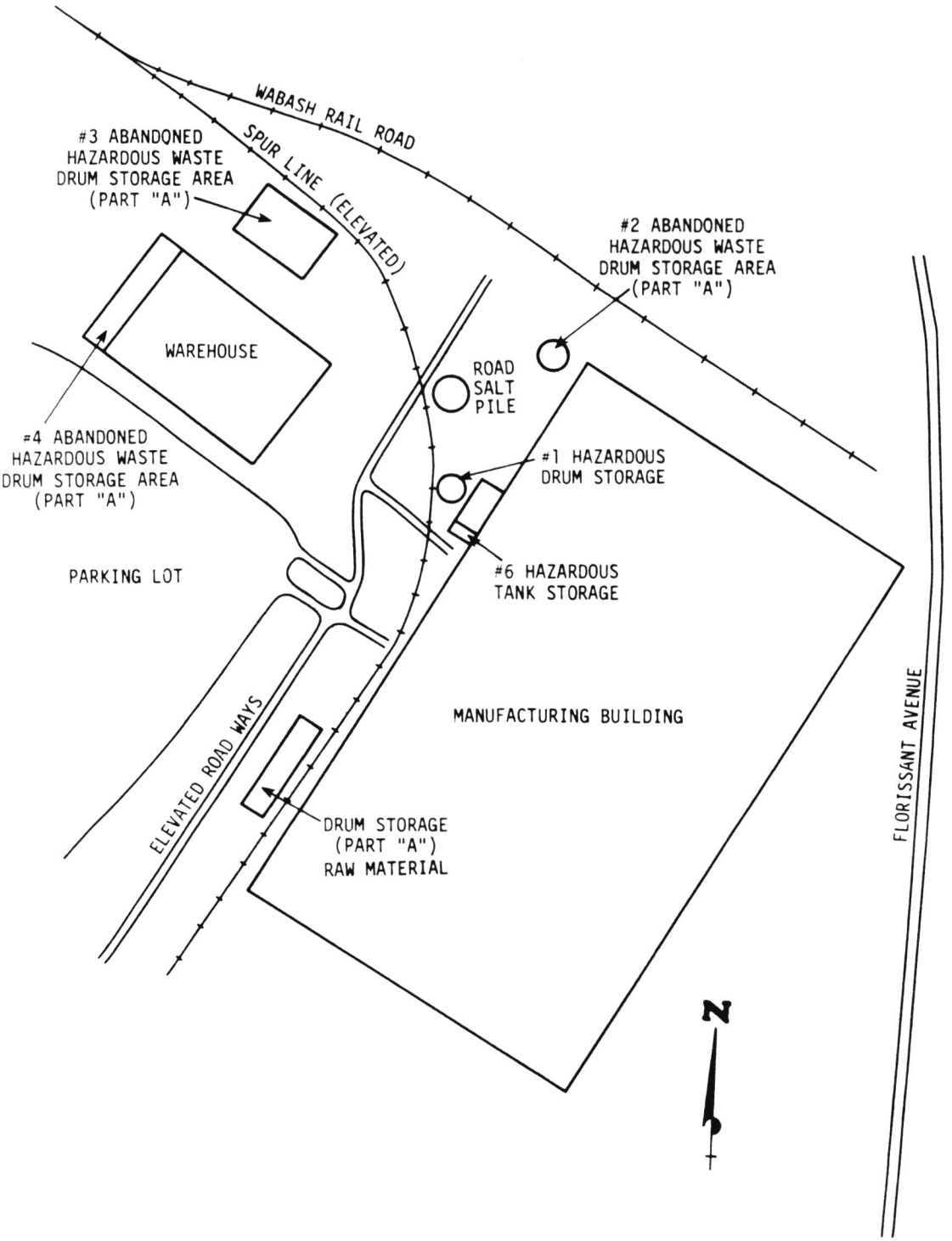

Emmerson Electric Company
St. Louis, Missouri
EPA ID No. MOD 00629633

LIST OF PHOTOGRAPHS
LITTON-CLIFTON PRECISION INSTRUMENTS

Photo Number	Description
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2	Shows label of D002 - corrosive waste
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5	Shows storage dock and stains, etchings of base
6	Shows drums inside of shipping and receiving area
7	Shows drums in the accumulation area

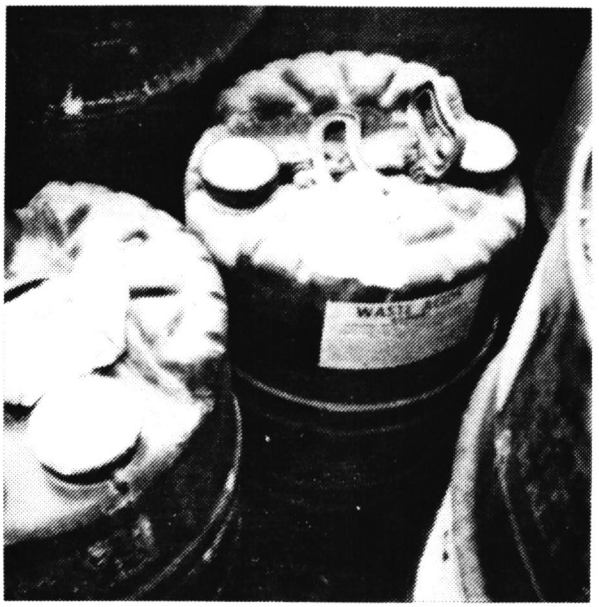
#1


CORROSIVE
HAZARDOUS
WASTE
HANDLE WITH CARE!

#2


HAZARDOUS
WASTE
HANDLE WITH CARE!

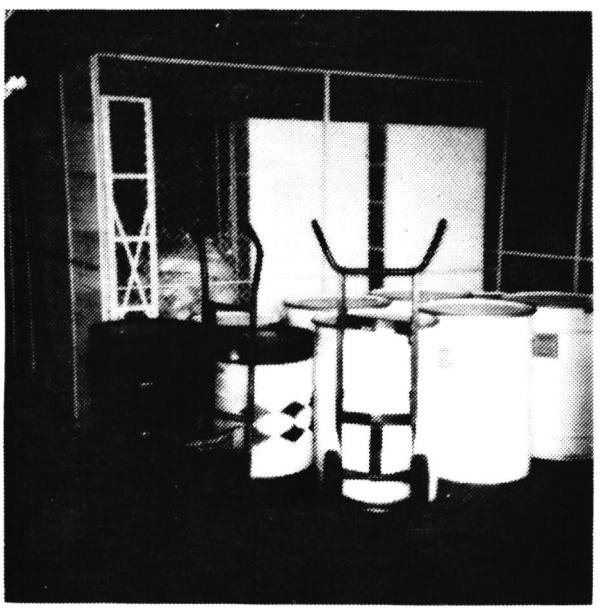
#3



#4

#5

#6



#7

PEDCo ENVIRONMENTAL, INC.
11499 CHESTER ROAD
CINCINNATI, OHIO 45246
(513) 782-4700
TELECOPIER (513) 782-4807

July 29, 1983

Mr. Jim Levin
Project Officer
A. T. Kearney
699 Prince Street
P.O. Box 1405
Alexandria, VA 22313

Dear Jim:

In accordance with Dr. Degner's (EPA Region VII) letter dated June 1, 1983, we have prepared an inspection report for the Litton-Clifton Precision Instruments facility located in Davenport, Iowa. Attached to the report are copies of the two checklists which were provided by EPA and completed in the field. The RCRA inspection confidentiality notice, photographs and the facilities personnel training plan are also included.

If you have any questions, call me.

Sincerely,

PEDCo ENVIRONMENTAL, INC.

Thomas D. Robertson

Thomas D. Robertson
Project Manager

Enclosure

cc: J. Ratcliffe
D. Sandifer
J. Galbraith

U.S. ENVIRONMENTAL PROTECTION AGENCY

RCRA INSPECTION
CONFIDENTIALITY NOTICE

Name and Address of Inspector(s)	Name and Address of Facility
PEDCO ENVIRONMENTAL INC 2420 Pershing Rd Suite 300 Kansas City MO 64108 Tom Robertson	CLIFTON PRECISION INSTRUMENTS & LIFE SUPPORT DIVISION 2734 HICKORY GROVE ROAD DAVENPORT - IOWA - 52804
	Owner, Operator, or (Agent in Charge) PAUL E. BOHNSACK
	Title MGR - SAFETY & SECURITY
	Address SAME.

Name of Individual to Whom Notice Given	Title	Date
PAUL BOHNSACK	MGR - SAFETY DIVISION	3-83

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 U.S.C. 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Resource Conservation and Recovery Act, Section 3007, EPA is required to make inspection data available in response to FOIA requests, unless the Administrator of the Agency determines that the data contains information entitled to confidential treatment.

Any or all of the information collected by EPA during the inspection may be claimed confidential, if it relates to trade secrets or commercial or financial matters that you consider to be confidential. If you make claims of confidentiality, EPA will disclose the information only to the extent, and by the means of the procedures set forth in the regulations (cited above) governing EPA's treatment of confidential information. Among other things, the regulations require that the EPA notify you in advance of publicly disclosing any information you have claimed and certified confidential.

To claim information confidential, you must certify that each claimed item meets all of the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.

2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).

3. The information is not publicly available elsewhere.

4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential and meets the four criteria listed above.

RCRA INSPECTION CONFIDENTIALITY NOTICE	Facility

If you are not authorized by your company to make confidentiality claims, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials, to the Owner, Operator, or Agent in Charge of your firm, within two days of this date. That person must return a statement, specifying any information which should receive confidential treatment.

The statement from the Owner, Operator, or Agent in Charge should be addressed to:

Mrs. Louise D. Jacobs
Director, Enforcement Division
United States Environmental Protection Agency
324 E. 11th Street
Kansas City, Missouri 64106

and mailed by registered, return-receipt requested mail within seven (7) calendar days of receipt of this Notice.

Failure by your firm to submit a written request that information be treated as confidential, either at the completion of the inspection or by the Owner, Operator, or Agent in charge, within the seven-day period, will be treated by the EPA as a waiver by your company of any claims for confidentiality regarding the inspection data.

To be completed by the facility official receciving this Notice:

I have received and read this Notice.

Name PAUL E. BOHNSACK

Title MGR-SAFETY & SECURITY

Signature Paul E. Bohnsack

Date 13 JULY 1983

If there is no one on the premises of the facility who is authorized to m business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the Owner, Operator, or Agent charge of the company. If there is another company official who should a receive this information, please designate below:

Name _____

Title _____

Address _____

_____

(Subpart I Section 265.170 - "General Operating Requirements"

R.O. USE

Inspection file No:

Name of Facility: Litton - Clifton TSD

Address: 2734 Hickory Grove

Reviewer:

EPA Generator ID Number: TXD005268420

Date Reviewed:

Facility Inspection Representative: Paul Bohnsack

Title: Manager of Safety and Training

Form "1"

Telephone Number:

The questions contained in this checklist apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as Section 265.1 provides otherwise.

Part. Regs. 40 C.F.R. Part:		
265.171	1. Are all containers in good condition, i.e., not showing signs of leakage or corrosion or any other deterioration/deformation?	(Yes) No
265.171	2. Are containers lined or made of materials compatible with hazardous wastes placed into them so that the container will not react or corrode with the hazardous wastes?	(Yes) No
265.173(a)	3. Are all containers holding hazardous waste kept closed during storage?	(Yes) No
265.174	4. Are areas where hazardous waste containers are stored inspected by the owner/operator at least once a week?	Yes (No)
265.15(d) 265.15(b)	5. Is an inspection log maintained? (See question #5 of TSD checklist.)	Yes (No)
265.176	6. Are containers holding ignitable or reactive waste located at least 50 ft. from the facility's property line?	(Yes) No
265.177(a)	7. Are incompatible wastes placed in the same container? (See Appendix 5 for examples.)	Yes (No)
265.177(c)	8. Are storage containers holding hazardous wastes which are incompatible with nearby materials stored in containers, tanks, piles, or surface impoundments separated by dikes, berms, walls, or other devices?	Yes (No)

1. Are there any tanks which not being used which the fac y no longer plans to use? ___yes___no

   a. If yes, has all hazardous waste and hazardous waste residue been removed from these tanks, discharge control equipment, and discharge confinement structures? ___yes___no

265.192 2. Are tanks presently used to treat or store waste? ___yes___no

   a. If no, do not complete rest of form.
   b. If yes, check tanks.

   Is there evidence that incompatible wastes have been placed in the tank? Is there evidence of any ruptures, leaks or corrosion? (Use narrative explanations sheet) ___yes___no

3. Are there any uncovered tanks? ___yes___no

   a. If no, do not complete B-E
   b. If yes, do they have 2 feet (60cm) freeboard? ___yes___no

   or

   c. A containment structure? (e.g. dike or trench) ___yes___no

   or

   d. A drainage control system? ___yes___no

   or

   e. A diversion structure? (e.g. standby tank) ___yes___no
   (NOTE: The structure in c,d or e must have a capacity that equals or exceeds the volume of the top 2 feet (60cm) of the tank.

4. Are any of the tanks continuous feed? ___yes___no

   a. If yes, is it equipped with a means to stop inflow (e.g. waste feed cutoff or by-pass to a stand-by tank)? ___yes___no

265.193 Waste Analysis

5. Is the tank used to store one waste exclusively? ____yes__no

   a. If no, what are the different wastes stored in the tank? (Use narrative explanations sheet)

   b. Are waste analyses and trial treatment or storage tests done on these different wastes? ____yes__no

      (1) If no, does he have written, documented information on similar storage or treatment of similar wastes? ____yes__no

   c. Are there records available of these waste analyses in the operating record? ____yes__no

265.194 Inspections:

6. Does the owner/operator inspect the following at least daily? ____yes__no

   a. Discharge control equipment (e.g. waste feed cut-off, by pass and/or drainage systems)? ____yes__no

   b. Monitoring equipment (e.g. pressure and temperature gages)? ____yes__no

   c. Level of waste in each uncovered tank? ____yes__no

7. Does the owner/operator inspect the following at least weekly? ____yes__no

   a. Construction materials of tanks for corrosion or leaks? ____yes__no
   b. Construction materials of and area surrounding discharge confinement structures for erosion or signs of leakage? ____yes__no

8. Is a written schedule of these inspections kept at the facility? ____yes__no

9. Does the facility maintain a record of the closure plan on site? ____yes__no

10. Are ignitable or reactive wastes placed in tanks? ____yes__no

    a. If yes, are they treated, rendered or mixed before or immediately after placement in the tank so it no longer meets the definition of ignitable or reactive? ____yes__no

    Or

    b. Is the waste protected from sources of ignition or reaction? ____yes__no

3. (continued)

(1) If yes, use narrative explanations sheet to describe separation and confinement procedures

(2) If no, use narrative explanations sheet to describe sources of ignition or reaction

or

c. Is the tank used solely for emergencies? ____yes___no

11. Are incompatible wastes placed in the same tank? ____yes___no

12. If a waste is to be placed in a tank that previously held an incompatible waste, was that tank washed? ____yes___no

a. If yes, describe washing procedures (Use narrative explanations sheet)

Describe how it is possible for incompatible waste to be placed in the same tank. (Use narrative explanations sheet)

Subpart K

SURFACE IMPOUNDMENTS CHECKLIST

1. Are there any surface impoundments which are not being used which the facility does not plan to use in the future? ___yes__no

   a. If yes, has all hazardous waste and hazardous waste residue been removed from the impoundment? ___yes__no

2. Are impoundments presently used to treat or store waste? ___yes__no

   a. If no, do not complete rest of form.
   b. If yes, check impoundments.

265.222 3. Does the impoundment appear to maintain at least 2 feet (60 cm) of freeboard? ___yes__no

4. Is there evidence of overtopping of the dike? ___yes__no

265.223 5. Does the impoundment have a containment system? ___yes__no

   a. Does the earthen dike have a protective cover (e.g. grass, shale, rock) to minimize wind and water erosion? (Use narrative explanations sheet) ___yes__no

6. What wastes are treated in the impoundment? (Use narrative explanations sheet)

265.225 7. Are waste analyses and trial tests conducted on these wastes? ___yes__no

   a. If not, does the owner/operator have written documented information on similar treatment of similar wastes? ___yes__no

8. Is this information retained in the operating record? ___yes__no

9. Is the impoundment inspected daily to check freeboard level? ___yes__no

10. Is the impoundment, dikes and vegetation surrounding the dike inspected weekly to detect leaks, deterioration or failures? ___yes__no

11. Does the facility maintain a record of the closure plan and all revisions to the plan at the site? (Effective May 19, 1981) ____yes___no

12. Are ignitable or reactive wastes placed in the impoundment? ____yes___no

    a. If no, do not complete b and c.
    b. If yes, are they treated, rendered or mixed before or immediately after placement in the impoundment so it no longer meets the definition of ignitable or reactive? ____yes___no

    or

    c. Is the impoundment used solely for emergencies? ____yes___no

13. Are incompatible wastes placed in the impoundment? ____yes___no

WASTE PILES CHECKLIST

NOTE: Waste piles may also be managed as a landfill.

265.251 1. Is the pile containing hazardous waste protected from wind? ___yes___no

265.252 2. Is a representative sample of waste from each incoming shipment analyzed before the waste is added to the pile to determine the compatibility of the wastes? ___yes___no

3. Does the analysis include a visual comparison of color and texture? ___yes___no

265.253 4. Is the leachate or run-off from the pile considered a hazardous waste? (Effective November 19, 1981) ___yes___no

a. If yes, is the pile managed with the following?

(1) An impermeable base compatible with the waste? ___yes___no
(2) Run on diversion? ___yes___no
(3) Leachate and run-off collection? ___yes___no

or

b. 1. Is the pile protected from precipitation and run-on by some other means? ___yes___no

265.256 5. Are ignitable or reactive wastes placed in the pile? ___yes___no

a. If yes, does the addition of the waste result in the waste or mixture no longer meeting the definition? ___yes___no
(Use narrative explanation sheet to describe procedure)

or

b. Is the waste protected from sources of ignition or reaction? ___yes___no

(1) If yes, use narrative explanations sheet to describe separation and confinement procedures.

(2) If no, use narrative explanations sheet to describe sources of ignition or reaction.

6. Is the pile separated from other sources of reaction by a dike, berm or wall? ___yes___no

7. Is there evidence of fire, explosion, gaseous emissions, leaching or other discharge? (Use narrative explanation sheet) ___yes___no

LAND TREATMENT CHECKLIST

M

265.272 1. Is run-on diverted away .rom the land treatment facility (Effective May 19, 1981) ____yes___no

2. Is run-off from the land treatment facility collected? ____yes___no (Effective May 19, 1981)

3. Is the runoff analyzed to see if it is a hazardous waste? ____yes___no

a. If the run-off is considered hazardous, how is it handled? (Use narrative explanations sheet)

b. If it is not a hazardous waste, is it discharged through a point source to surface waters? ____yes___no

(1) If yes, list NPDES Permit No._____

4. What hazardous wastes are treated at the land treatment facility?

Subpart D Listed Wastes

Characteristic Wastes (EP Toxicity)

265.273 A. For those listed wastes, were analyses done to determine the concentrations of those constituents which caused the waste to be listed?

(1) If yes, what are these concentrations? (Use narrative explanation sheet)

B. For those characteristic Wastes (EP) Toxicity, what are the concentrations of the following

Concentration (Mg/l)	Waste
	Arsenic
	Barium
	Cadmium
	Chromium
	Lead
	Mercury
	Selenium
	Silver
	Endrin
	Lindane
	Methoxychlor
	Toxaphene
	2,4 D
	2,4,5-TP Silvex

265.276 5. Are food chain crops grown? ____yes___no

a. If yes, what are the concentrations of the following in the soil and vegetation.

	Soil Concentration (mg/l)	Vegetation Concentration (mg/l)
Arsenic		
Cadmium		
Lead		
Mercury		

6. Did the facility notify the RA that he is growing food chain crops? ____yes___no

7. Is the following information kept at the facility? ____yes___no

a. Tests for the specific wastes and application rates being used at the facility? ____yes___no
b. Crop characteristics? ____yes___no
c. Soil characteristics? ____yes___no
d. Sample selection criteria? ____yes___no
e. Sample size determination? ____yes___no
f. Analytical methods used? ____yes___no
g. Statistical procedures? ____yes___no

8. Does the facility treat waste that contains cadmium? ____yes___no

a. If no, do not fill out b&c

b. If yes, was the pH of the soil and waste mixture 6.5 or greater at the time of each waste application? ____yes___no

(1) If the pH was less than 6.5, did the waste contain cadmium concentrations of 2mg/Kg or less? ____yes___no

c. Is the annual application rate of cadmium less than 0.5 Kg/ha (Kilograms per hectare) for the following: tobacco, leafy vegetables, or root crops grown for human consumption ____yes___no

(1) For all other food chain crops, is the annual cadmium application rate less than 2.0 Kg/ha (Until 6/30/84) ____yes___no

265.278 9. Is an unsaturated zone monitoring plan kept at the facility? ____yes___no

10. Does the plan include:

a.	Soil monitoring	____yes___no
b.	Soil pore water monitoring	____yes___no
c.	Sample depths below waste incorporation	____yes___no
d.	Number of samples to be taken	____yes___no
e.	Frequency and time of sampling	____yes___no
f.	Analysis of samples	____yes___no

265.279 11. Are records kept at the facility of

a.	Application dates	____yes___no
b.	Application rates	____yes___no
c.	Quantities	____yes___no
d.	Waste location	____yes___no

265.280 12. Is a copy of the closure/post-closure plan kept at the facility? ____yes___no (Effective May 19, 1981)

265.281 13. Are ignitable or reactive wastes placed in the facility? ____yes___no

a. If yes, are the wastes treated, rendered or mixed before or immediately after placement in the landfill so it is no longer reactive or ignitable?

____yes___no

b. Describe or attach a copy of treatment.

14. Are incompatible wastes placed in the facility? ____yes___no

a. Are the incompatible waste placed in different locations in the facility? ____yes___no

Subpart

N

LANDFILLS CHECKLIST

265.302

1. Is run-on diverted from the landfill? (Effective November 19, 1981) ____yes__no

2. Is run-off from the landfill collected? (Effective November 19, 1981) ____yes__no

   a. Is this waste analyzed to determine if it is a hazardous waste? ____yes__no

   (1) If it is a hazardous waste, how is it managed? (Use narrative explanations sheet)

   (2) Is the collected run-off discharged through a point source to surface waters? ____yes__no

      (a) If yes, list NPDES Permit Number_____

3. Is the landfill managed so that wind dispersal is controlled? ____yes__no (Note blowing debris)

4. Is the following information maintained in the operating record? ____yes__no

5. Are reactive or ignitable wastes placed in the landfill? ____yes__no

   a. If yes, is it treated, rendered or mixed before or immediately after placement in the landfill so it is no longer reactive or ignitable? ____yes__no

   b. Describe treatment, etc, or attach a copy of treatment.

6. Are incompatible wastes placed in the same landfill? ____yes__no

7. Are bulk or non-containerized liquid wastes or wastes containing free liquids placed in the landfill? (Effective November 19, 1981) ____yes__no

   a. If yes, does the landfill have
      (1) A chemically and physically resistant liner? ____yes__no
      (2) Functioning leachate collection and removal system? ____yes__no

      or

   b. 1. Is the liquid waste treated chemically or physically so that free liquids are no longer present? (Effective November 19, 1981) ____yes__no

2.

265.314 8. Are containers holding liquid wastes placed in the landfill? ___yes___no

a. If yes, is the container designed to hold liquids for a use other than storage? (eg battery, capacitor) ___yes___no
(Effective November 19, 1981)

265.315 9. Are empty containers placed in the landfill? ___yes___no

a. If yes, are they reduced in volume (eg shredded, crushed)? ___yes___no
(Effective November 19, 1981)

10. Is there evidence of site instability? (e.g. erosion, settling)? ___yes___no
(Use narrative explanations sheet)

11. Is there evidence of ponding of water on-site? ___yes___no
(Use narrative explanation sheet)

12. Is there any indication of improper or inadequate drainage? ___yes___no
(Use narrative explanations sheet)

265.310 13. Does the facility maintain closure and post-closure plans? ___yes___no

INCINERATORS CHECKLIST

265.343 1. Is the incinerator operating at steady state conditions (temperature and air flow) before adding hazardous waste? ____yes__no

265.345 2. Is a waste analysis documented on the operating record that includes:

a. Heating value ____yes__no
b. Halogen content ____yes__no
c. Sulfur content ____yes__no
d. Concentration of lead ____yes__no
e. Concentration of mercury ____yes__no

(Note: D&E not required if facility has written documented data that show the elements are not present.

265.347 3. Does the owner/operator monitor the following when incinerating hazardous waste?

a. At least every 15 minutes, existing instruments which relate to combustion and emission control including:

(1) Waste feed ____yes__no
(2) Auxiliary fuel feed ____yes__no
(3) Air flow ____yes__no
(4) Incinerator temperature ____yes__no
(5) Scrubber flow ____yes__no
(6) Scrubber pH ____yes__no
(7) Relevant level controls ____yes__no

b. Stack plume (emissions) at least hourly for:

(1) Color (normal) ____yes__no
(2) Opacity ____yes__no

c. Incinerator and associated equipment at least daily including:

(1) Pumps, valves, conveyors, pipes for leaks, spills, and fugitive emissions (Use narrative explanations sheet) ____yes__no
(2) Emergency shutdown controls ____yes__no
(3) System alarms ____yes__no

265.351 4. Is a closure plan maintained at the facility? ____yes__no
(Effective May 19, 1981)

NOTE: Applies to thermal treatment of hazardous waste in devices other than incinerators.

265.373 1. Is the process a non-continuous (batch) process? ____yes___no

a. If no, is the process operating at steady state conditions (including temperature) before adding hazardous waste? ____yes___no

265.375 b. Is a waste analysis documented in the operating record that includes

1. Heating value ____yes___no
2. Halogen content ____yes___no
3. Sulfur content ____yes___no
4. Concentration of lead ____yes___no
5. Concentration of mercury ____yes___no

NOTE: 4&5 not required if facility has written documented data that show the elements are not present)

265.377 2. Does the owner/operator monitor the following when thermally treating hazardous wastes? ____yes___no

a. At least every 15 minutes, existing instruments which relate to temperature and emission control:

1. Waste feed ____yes___no
2. Auxiliary fuel feed ____yes___no
3. Treatment process temperature ____yes___no
4. Relevant process flow ____yes___no
5. Relevant level controls ____yes___no

b. Stack plume (emissions) at least hourly:

1. Color (normal) ____yes___no
2. Opacity ____yes___no

c. Thermal treatment process equipment at least daily

1. Pumps, valves, conveyors, pipes, etc - for leaks, spills and fugitive emissions? ____yes___no
2. Emergency shutdown controls? ____yes___no
3. System alarms ____yes___no

265.381 3. Is a closure plan mai[illegible]ined at the facility? ___yes___no
(Effective May 19, 19[illegible])

265.382 4. Is there evidence of any open burning of hazardous waste? ___yes___no
(Use narrative explanations sheet)

5. Is open burning or detonation of waste explosives conducted? ___yes___no

a. If yes, is the detonation performed in accordance with the following table? ___yes___no

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0-100	204m(670 ft)
101-1,000	380m(1,250 ft)
1,001-10,000	530m(1,730 ft)
10,001-30,000	690m(2,260 ft)

Subpart

Q

CHEMICAL, PHYSICAL & BIOLOGICAL TREATMENT CHECKLIST

NOTE: Applies to treatment in other than tanks, surface impoundments, and land treatment facilities.

265.401 1. Check treatment process and equipment:

a. Are there any leaks, corrosion or other failures evident? ___yes___no
If yes, describe._____

_____

_____

2. Is the process a continous feed system? ___yes___no

a. If yes, is it equipped with a means to stop waste inflow (e.g. waste feed cut-off system or by-pass)? ___yes___no

265.402 3. Is waste analysis information maintained in the operating record? ___yes___no

4. If a hazardous waste is received which is substantially different from any hazardous waste previously treated at the facility, are the following obtained? ___yes___no

a. Waste analyses and trial treatment tests (eg bench scale)? ___yes___no
b. Written documented information on similar treatment of similar waste? ___yes___no

265.403 5. Does the owner/operator inspect the following, where present? ___yes___no

a. At least daily.
1. Discharge control and safety equipment (eg waste feed cut-off, by-pass, drainage or pressure relief systems)? ___yes___no

2. Data gathered from monitoring equipment (eg pressure and temperature gauges)? ___yes___no

b. At least weekly.
1. Construction materials of treatment process or equipment to detect erosion or obvious signs of leakage? ___yes___no

6. Does the facility maintain a closure plan? ___yes___no
(Effective May 19, 1981)

265.405 7. Are ignitable or reactive wastes placed in the treatment process? ___yes___no

a. If yes, is the waste treated, rendered or mixed before or immediately after being placed in the treatment process so it no longer meets the definition of ignitable or reactive? ___yes___no
Describe or attach a copy of the treatment.

IAD 00 5 2 68420

EPA IDENTIFICATION NUMBER

RCRA INSPECTION REPORT - INTERIM STATUS STANDARDS

I. General Information:

(A) Facility Name: Litton - Clifton Precision Instruments & Life support Division

(B) Street: 2734 Hickory Grove Road

(C) City: Davenport (D) State: IA (E) Zip Code: 52804

(F) Phone: 319-383-6000 (G) County: _____

(H) Operator: SAME — Paul E Bohnsack - manager Safety and Training

(I) Street: _____

(J) City: _____ (K) State: _____ (L) Zip Code: _____

(M) Phone: _____ (N) County: _____

(O) Owner: R. Edward Fisher - V.P. General manager

(P) Street: _____

(Q) City: _____ (R) State: _____ (S) Zip Code: _____

(T) Phone: _____ (U) County: _____

(V) Type of Ownership: ____ Federal ____ Municipal X Private ____ State ____ County

(W) Date of Inspection: 7-13-83 (Q) Time of Inspection (From) 10:30 (To) 4:30

(X) Weather Conditions: Hot

(Z) Inspection Participants	Title	Telephone
Paul E Bohnsack	Manager Safety-Security & University relations	319-383-6293
Dave Whitting	Dept W.A.W.M Rg 6	
Tom Robertson	PeDCO	816-337-8484

II. Description of Site Activity

(A) X Generator (Form 2)

(B) ____ Transporter (Form 3)

(C) ____ Chemical, Physical and Biological Treatment (Form 4)

(D) X Storage (Form 5)

(E) ____ Landfill (Form 6)

(F) ____ Incineration (Form 7)

(G) ____ Land Treatment (Form 4)

(H) ____ Thermal Treatment (Form 7)

(I) Comments: Aircraft Instrumentation

Supplemental forms (Listed in Parathesis) must be completed for each activity inspected. Attach all Supplemental forms to this report.

	Yes	No	Not Inspected	See Remark Number
(J) Has this facility Submitted a Part A Permit Application?	✓			

RCRA [illegible]PLIANCE INSPECTION REPORT
[illegible]ENERATORS CHECKLIST

Section A - EPA Identification No.

1. Does Generator have EPA I.D. No.? X Yes ___ No

   a. If yes, EPA I.D. No. IAD005268420

262.21 **Section B - Manifest**

1. Does generator ship waste off-site? X Yes ___ No

   a. If no, do not fill out Sections B and D.

   b. If yes, identify primary off-site facility(s) Use narrative explanations sheet.)

2. Does generator use Manifest? X Yes ___ No

261.5 a. If no, is generator a small quantity generator? ___ Yes ___ No NA
   1. If yes, does generator indicate this when sending waste to a T/S/D facility ___ Yes ___ No NA

   b. If yes, does manifest include the following information?

   1. Manifest Document No. X Yes ___ No
   2. Generators Name, Mailing Address, Telephone No. X Yes ___ No
   3. Generator EPA I.D. No. X Yes ___ No
   4. Transporter(s) Name and EPA I.D. No. X Yes ___ No
   5. a. Facility Name, Address and & EPA I.D. No. X Yes ___ No
      b. Alternate Facility Name, Address and EPA ID NO. ___ Yes X No
      c. Instructions to return to generator if undeliverable? ___ Yes X No
   6. Waste information required by DOT - Shipping name, quantity, (weight, or vol.) containers (type and number.) ___ Yes X No
   7. Emergency Information (optional) (special handling instructions, phone no.) X Yes ___ No

Our manifest utilized the phrase WASTE Paint THINNER

Previously cited in State report

March 27, 1981

modified by state of Illinois and minnesota

(8) Is the following certification on each manifest form? ___ Yes X No

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA.

(9) Does Generator retain copies of Manifests? X Yes ___ No

If yes, complete a through e.

a. (1) Did generator sign and date all manifests? X Yes ___ No
(2) Who signed for generator? Name VAries Title ______

Tracking system is not formal. To date there has been no apparent need for an exception report

b. (1) Did generator obtain handwritten signature and date of acceptance from initial transporter? X Yes ___ No
(2) Who signed and dated for transporter? Name VAries Title ______

c. Does generator retain one copy of manifest signed by generator and transporter? X Yes ___ No

d. Do returned copies of manifest include facility owner/operator signature and date of acceptance? X Yes ___ No

e. Does generator retain copies for 3 years? X Yes ___ No

Section C - Hazardous Waste Determination

262.12 1. Does generator generate solid waste(s) listed in Subpart D (List of Hazardous Waste)? X Yes ___ No

a. If yes, list wastes and quantities (include EPA Hazardous Waste No.) See Part A 7001, F003, F005, F007, 7008, 7009, 7010, 7011

See photo's #'s 1 & 2

2. Does generator generate solid waste(s) that exhibit hazardous characteristics? (corrosovity, ignitability, reactivity, EP toxicity) ___ Yes X No

a. If yes, list wastes and quantities (include EPA Hazardous Waste No.) D001 wastes are in storage, not on Part A"

b. Does generator determine characteristics by testing or by applying knowledge of processes? Applying knowledge

1. If determined by testing, did generator use test methods in Part 261, Subpart C (or Equivalent)? ___ Yes ___ No NA

a. If equivalent test methods used, attach copy of equivalent methods used.

3. Are there any other solid wastes generated by generators? X Yes ___ No

   a. If yes, did generator test all wastes to determine non-hazardous characteristics? X Yes ___ No

see photo #3

   1. If no, list wastes and quantities deemed non-hazardous or processes from which non-hazardous waste was produced? (Use additional sheet if necessary.)

by Knowledge of Process and Materials / WASTE ACIDS in Storage not listed as hazardous commingled with non hazardous waste.

Section D - Pre-Transport Requirements

1. Does Generator package waste in accordance with 49 CFR 173 178, and 179? (DOT requirements) X Yes ___ No

265.174 2. a. Are containers to be shipped leaking or corroding? ___ Yes X No
   b. Use sheet to describe containers and condition.
   c. Is there evidence of heat generation from incompatible wastes in the containers? ___ Yes X No

262.32 3. Does the generator use DOT labeling requirements in accordance with 49 CFR 172? X Yes ___ No

4. Does the generator mark each package in accordance with 49 CFR 172? X Yes ___ No

5. Is each container of 110 gallons or less marked with the following label? X Yes ___ No

Label saying: HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest policy or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address _____

_____

Manifest Document Number _____ _____

→ 262.33 6. Does generator have placards to offer to transporters? ___ Yes X No

262.34 7. Accumulation Time

   a. Are containers used to temporarily store waste before transport? X Yes ___ No

Facility is using form included in part B Figure 7-2

1. If yes, is each container clearly dated? Also, fill out rest of No. 7 (Accum. Time) — X Yes ___ No

b. 1. Does generator inspect containers for leakage or corrosion? (265.174 - inspections) — ___ Yes X No
2. If yes, with what frequency? _____

c. Does generator locate containers holding ignitable or reactive waste at least 15 meters (50 feet) from the facility's property line? (265.176 - Special Requirements for Ignitable or Reactive wastes) — X Yes ___ No

NOTE: If tanks used, fill out checklist for tanks.

NA

d. Are the containers labeled and marked in accordance with Section D 3, 4, & 5 of this form? — X Yes ___ No

NOTE: If generator accumulates waste on-site, fill out checklist for General Facilities, Section B - Preparedness and Prevention, Section C - Contingency Plan and Emergency Procedures

e. Does generator comply with requirements for personnel training? (Attach checklist for 265.16 - Personnel Training) — X Yes ___ No

8. Describe storage area. Use photos and narrative explanation sheet.

62.40 Section E - Recordkeeping and Records

1. Does gnerator keep the following reports for 3 years?

a. Manifests and signed copies from designated facilities? — X Yes ___ No
b. Annual reports — X Yes ___ No
c. Exception Reports None issued — ___ Yes ___ No NA
d. Test results — X Yes ___ No

2. Where are records kept (at facility or elsewhere)? at facility
3. Who is in charge of keeping the records? Name Jud Bowsack Title _____

Section F - Special Conditions

62.50 1. Has generator received from or transported to a foreign source any hazardous waste? — ___ Yes X No
a. If yes, has he filed a notice with the Regional Administrator? — ___ Yes ___ No NA
b. Is this waste manifested and signed by Foreign consignee? — ___ Yes ___ No NA
c. If generator transported wastes out of the country, has he received confirmation of delivered shipment? — ___ Yes ___ No NA

RCRA COMPLIANCE INSPECTION REPORT
FACILITIES CHECKLIST

Section A - General Facility Standards

262.12 1. Does facility have EPA Identification No.? X Yes ___ No

A. If yes, EPA I.D. No. IAD005268420
If no, explain _____

262.50 2. Has facility received hazardous waste from a foreign source? ___ Yes X No

A. If yes, has he filed a notice with the Reg. Admin. ___ Yes ___ No NA

265.13 Waste Analysis

3. Does facility maintain a copy of the waste analysis plan at the facility? X Yes ___ No

A. If yes, does it include

(1) Parameters for which each waste will be analyzed? X Yes ___ No

(2) Test methods used to test for these parameters? X Yes ___ No

(3) Sampling method used to obtain sample? X Yes ___ No

(4) Frequency with which the initial analysis will be reviewed or repeated? once every two years X Yes ___ No

(5) (for off-site facilities) Waste analyses that generators have agreed to supply? X Yes ___ No AA

(6) (for off-site facilities) Procedures which are used to inspect and analyze each movement of hazardous waste including: NA

a. Procedures to be used to determine the identity of each movement of waste? ___ Yes ___ No

b. Sampling method to be used to obtain representative sample of the waste to be identified? NA ___ Yes ___ No

265.14 4. Does the facility provide adequate security through

A. 24-hour surveillance system? (e.g. television monitoring or guards) X Yes ___ No

OR

B. (1) Artificial or natural barrier around facility (e.g. fence or fence and cliff)? X Yes ___ No
Describe
AND

(2) Means to control entry through entrances (e.g. attendant, television monitors, locked entrance, controlled roadway access)? X Yes ___ No
Describe

General Inspection Requirements

265.15 (b) 5. Does the owner/operator maintain a written schedule at the facility for inspecting:

a. Monitoring equipment? ___ Yes X No

b. Safety and emergency equipment? File of Engineer - annually First Aide - by nurse records not at log file ___ Yes ✓ No

c. Security devices? Fences by guards — Pinkerton not part of log records ___ Yes ✓ No

d. Operating and structural equipment? ___ Yes ✓ No

e. Types of problems of equipment?

1. malfunction ___ Yes ✓ No

2. operator error ___ Yes ✓ No

3. discharges ___ Yes ✓ No

Part B info not implemented — no inspection records

265.15 (d) 6. Does the owner/oper[illegible] maintain an inspection log? ___ Yes _X_ No

A. If yes, does it include:

Part B not yet implemented

hone call to Plant engineer to see if implemented [illegible]

(1) Date and time of inspection? ___ Yes ___ No

(2) Name of inspector? ___ Yes ___ No

(3) Notation of observations? ___ Yes ___ No

(4) Date and nature of repairs or remedial action? ___ Yes ___ No

B. Are there any malfunctions or other deficiencies not corrected? (Use narrative explanation sheet). ___ Yes ___ No

265.16 Personnel Training

7. Does the owner/operator maintain Personnel Training Records at the facility? _X_ Yes ___ No
How long are they kept? 3 years minimum

A. If yes, do they include: there is only 1 person in each job classification

ANNUAL HAS not yet been scheduled 5 sessions [illegible] since 12/1/83

(1) Job title and written job description of each position? _X_ Yes ___ No

records do not indicate content of specific session →

(2) Description of type and amount of training? ___ Yes _X_ No

(3) Records of training given to facility personnel? _X_ Yes ___ No

265.17 Requirements for Ignitable, Reactive or Incompatible Waste

(a) 8. Does facility handle ignitable or reactive wastes? _X_ Yes ___ No

A. If yes, is waste separated and confined from sources of ignit[illegible]on or reaction, (open flames, smoking, cutting and wel[illegible]ng, hot surfaces, frictional heat) sparks (static, electrical or mechanical), spontaneous ignition (e.g. from heat producing chemical reactions) and radiant heat? ___ Yes _X_ No

? → Electric switch

1. If yes, use narrative explanations sheet to describe separation and confinement procedures.
2. If no, use narrative explanation sheet to describe sources of ignition or reaction.

emergency coordinators are not listed in training plan. → Alternates are not thoroughly familiar with records and all aspects of facility operation

B. Are smoking and [illegible] flame confined to specifically designated locations? X Yes ~~X~~ No

C. Are "No Smoking" signs posted in hazardous areas? X Yes ___ No

(b) 9. Check containers

A. Are containers leaking or corroding? ___ Yes X No

B. Is there evidence of heat generation from incompatible wastes? ___ Yes X No
(Use narrative explanations sheet to describe condition of containers.)

265.31 Section B - Preparedness and Prevention

1. Is there evidence of fire, explosion or contamination of the environment? ___ Yes ___ No

If yes, use narrative explanations sheet to explain.

265.32 2. Is the facility equipped with

A. Internal communication or alarm system? X Yes ___ No

(1) Is it easily accessible in case of emergency? X Yes ___ No

B. Telephone or two-way radio to call emergency response personnel? X Yes ___ No

C. Portable fire extinguishers, fire control equipment spill control equipment and decontamination equipment? X Yes ___ No

265.33 (1) Is this equipment tested to assure its proper operation? X Yes ___ No

D. Water of adequate volume for hoses, sprinklers or water spray system? X Yes ___ No

(1) Describe source of water DAVENPORT

265.35 3. Is there sufficien sle space to allow unobstructe movement of personnel and equipment? X Yes ___ No

---

265.37 4. Has the owner/operator made arrangements with the local authorities to familiarize them with characteristics of the facility? (layout of facility, properties of hazardous waste handled and associated hazards, places where facility personnel would normally be working, entrances to roads inside facility, possible evacuation routes.) X Yes ___ No

---

65.50 5. In the case that more than one police and fire department might respond, is there a designated primary authority? X Yes ___ No
a. If yes, list primary authority _____

65.52 (a) 6. Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors and equipment suppliers? X Yes ___ No
Are they readily available to all personnel? X Yes ___ No

(c) 7. Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility? X Yes ___ No

---

8. If State or local authorities decline to enter, is this entered in the operating record? ___ Yes X No

---

65.52 Section C - Contingency Plan and Emergency Procedures

1. Is a contingency plan maintained at the facility? X Yes ___ No

---

a. If yes, is it a revised SPCC Plan? ___ Yes X No

---

2. Is there an emergency coordinator on site at all times? ___ Yes X No
on call but not formally

Section D - Manifest System, Recordkeeping and Reporting

65.71 1. Does facility receive waste from off-site? ___ Yes X No

---

a. If yes, does the owner/operator retain copies of all manifests? X Yes ___ No

Paul Bohnsack

(1) Are the manifests signed and dated and returned to the generator? X Yes ___ No

(2) Is a signed copy given to the transporter? X Yes ___ No

2. Does the facility receive any waste from a rail or water (bulk shipment) transporter? ___ Yes X No

a. If yes, is it accompanied by a shipping paper? ___ Yes ___ No NA

(1) Does the owner/operator sign and date the shipping paper and return a copy to the generator? ___ Yes ___ No NA

(2) Is a signed copy given to the transporter? ___ Yes ___ No NA

265.72 3. Has the owner/operator received any shipments of waste which were inconsistent with the manifest? (manifest discrepancies) ___ Yes X No NO

a. If yes, has he attempted to reconcile the discrepancy with the generator and transporter? ___ Yes ___ No NA
1. If no, has Regional Administrator been notified? ___ Yes ___ No

265.73 4. Does the owner/operator keep a written operating record at the facility? X Yes ___ No

A. If yes, does it include:

(1) Description and quantity of each hazardous waste received? X Yes ___ No

(2) Location and quantity of each hazardous waste at each location? X Yes ___ No

(3) Records and results of waste analyses? X Yes ___ No

(4) Reports of incidents involving implementing of the contingency plan? Never Done ___ Yes ___ No NA

(5) Records and results of required inspections? ___ Yes X No

(6) Monitoring, testing or analytical data? X Yes ___ No

(7) Closure cost estimates and for disposal facilities post-closure cost estimates? (Not effective until May 19, 1981.) FINANCIAL ASSURANCE Cooperate Guarantee - 2-22-83 TRANSMITTED to EPA X Yes ___ No

5. Has the facility received any waste (that does not come under the small generater exclusion) not accompanied by a manifest? ___ Yes X No

a. If yes, has he submitted an unmanifested waste report to the Regional Administrator? ___ Yes X No

DATE _____

EPA ID NO. _____

RCRA COMPLIANCE INSPECTION REPORT
NARRATIVE EXPLANATIONS

SECTION B PART 1

Concrete shows evidence of stains, spangling & cracks, oily dust on site now. See photo's #'s 4 & 5

SECTION _____ PART _____

SECTION _____ PART _____

DATE_____

EPA ID NO._____

RCRA COMPLIANCE INSPECTION REPORT
NARRATIVE EXPLANATIONS

SECTION_____ PART_____

SECTION_____ PART_____

SECTION_____ PART_____

SITE PLAN

1 Drum Cyanide WASTE 7007 dated 2-4-83
5 Drum in overpack " " " 6-28-83
2 Drum 7001 " " " 7-6-83
1 Drum 7005 " " " 6-28-83

} Photo #6

~~12~~ Drums labeled D002 Corrosive not on Part A
it would appear that they were originally labeled 7007

} Photo #'s 1 & 2

3 Carboys labeled AS WASTE ACIDS - Electro polish solutions Photo #3

→ 1 D005 — BARIUM not on Part A 5-17-83
→ 1 F010 — 8-3-82 overpack
→ 1

HAZARDOUS WASTE

PERSONNEL TRAINING

Litton
CLIFTON PRECISION
Instruments & Life Support Division

1 AUG 82 PEB

Litton

PREFACE

Hazardous Waste Management facilities are required to train those persons who, as a part of their regular duties, are intimately involved with the daily handling and movement of the identified wastes. Since the number in this group is extremely small, we feel it is to our mutual advantage to provide a broad training program to others throughout the facility. This will include the background information and reasoning for the HWM Plan. It is hoped this will foster cooperation by those who are peripherally involved so that waste quantities can be reduced, new inventory and waste hauling costs can be reduced and the importance of waste segregation is realized.

All of these personnel will receive the information contained in Sections 1 through 3. Those who need more intensive training will additionally be provided the information contained in Section 4. Appropriate training records will be maintained for both groups. Retraining will be conducted annually for those initmately involved in the plan compliance.

If you have any questions regarding Hazardous Waste Management at this facility, contact your supervisor or the undersigned.

_____

Paul E. Bohnsack

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HAZARDOUS WASTE TRAINING MANUAL CONTENT

1.0 Introduction

- 1.1 The Resource Conservation and Recovery Act - RCRA
- 1.2 Chemical Hazards

2.0 Facility and Process Description

- 2.1 Description of Wastes to be Managed
- 2.2 Description of Storage Facility
- 2.3 Key Terms of the Permit
- 2.4 Normal/routine Operations
- 2.5 Waste Analysis
- 2.6 Recordkeeping and Reporting Requirements
- 2.7 Security
- 2.8 Inspections

3.0 Emergency Procedures and Contingency Plans

- 3.1 Emergency Coordinator
- 3.2 Emergency Procedures
- 3.3 Emergency Communications/Phone Numbers and Alarms
- 3.4 Location, Maintenance, Inspections, and Use of Emergency Equipment
- 3.5 Spill Control and Response to Groundwater Contamination Incidents
- 3.6 Fires and explosions
- 3.7 Power Interruption or Failure
- 3.8 Severe Weather

4.0 Detailed Instruction

- 4.1 Hazardous Waste Characteristics
- 4.2 Hazardous Wastes
- 4.3 Safety
- 4.4 Emergencies
- 4.5 Inspection
- 4.6 Identification and Inventory Control

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HAZARDOUS WASTE TRAINING

1.0 Introduction

1.1 Resource Conservation and Recovery Act

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA). The stated objectives of RCRA are to promote the protection of human health and the environment and to conserve valuable material and energy resources. Subtitle C of RCRA specifially concerns the management of hazardous waste.

The following elements are the key to the Federal hazardous waste management regulatory program under RCRA:

- definition of hazardous waste
- a manifest system to track hazardous waste from its generation to its final disposal
- standards for generators and transporters of hazardous waste
- permit requirements for facilities that treat, store, or dispose of hazardous waste
- requirements for state hazardous waste programs

On May 19, 1980, regulations promulgated under RCRA (over 500 pages) required, among other things, that owners or operators of hazardous waste management facilities train selected personnel. This is the reason we ask you to be certain you sign the attendance sheet. We must have these on file for review by the EPA or Iowa DEQ.

1.2 Chemical Hazards

An assessment of the hazardous wastes generated in recognizable quantities in this plant indicates that three classes of problems could exist: ignitability, or materials which have a flash point below 140°F, as with alcohol; toxicity, or materials which could have a deleterious effect if taken into the body in sufficient amounts, for example, chromic acid, and reactivity, or materials which have a potential for reacting with other materials, such as acids or caustics.

2.0 Facility and Process Description

2.1 Description of wastes to be managed

The description column in Figure 1 lists the materials which are considered as hazardous wastes, and which may be encountered in our operation. Also noted are some other data, as to EPA numbers, codes, etc. which we should discuss.

2.2 Description of Storage Facilities

The regulations are rather explicit for plants which store hazardous wastes for over 90 days. We are such a plant, therefore, a new building will be erected along the west end of the main plant for the storage of our hazardous wastes.

This can be a complicated subject, but the rate of accumulation at our plant does not warrant such systems as storage tanks, piping, pumps, waste piles, treatment facilities, etc. All wastes which we generate can be conveniently stored in suitable 55 gallon drums.

The drawings in Figure 2 and Figure 3 show the concept of the proposed Hazardous Waste Storage Building.

2.3 Key Terms of the Permit

A Hazardous Waste Permit Application must cover the following:

..Facilities Description
..Waste Characteristics
..Process Description (Waste container management, etc.)
..Procedures to Prevent Hazards (Precautionary Procedures)
..Contingency Plan (What to do if an Emergency Develops)
..Training Plan
..Closure Plan (Plans for future Complete Abandonment of Site)

All manufacturers who generate and store over 2,200 pounds (approximately 5 drums) per month of materials defined as hazardous wastes are now required to apply for a special EPA permit. An iterim permit application was required by November, 1980, and an application for a final permit was to be "on request".

We complied with the first part two years ago, and have now been notified our final permit application is due by October, 1982.

The implications of qualifying or operating to this requlation are very involved. The final permit application outline alone is over 8 pages long and includes scores of references to State and Federal Regulations.

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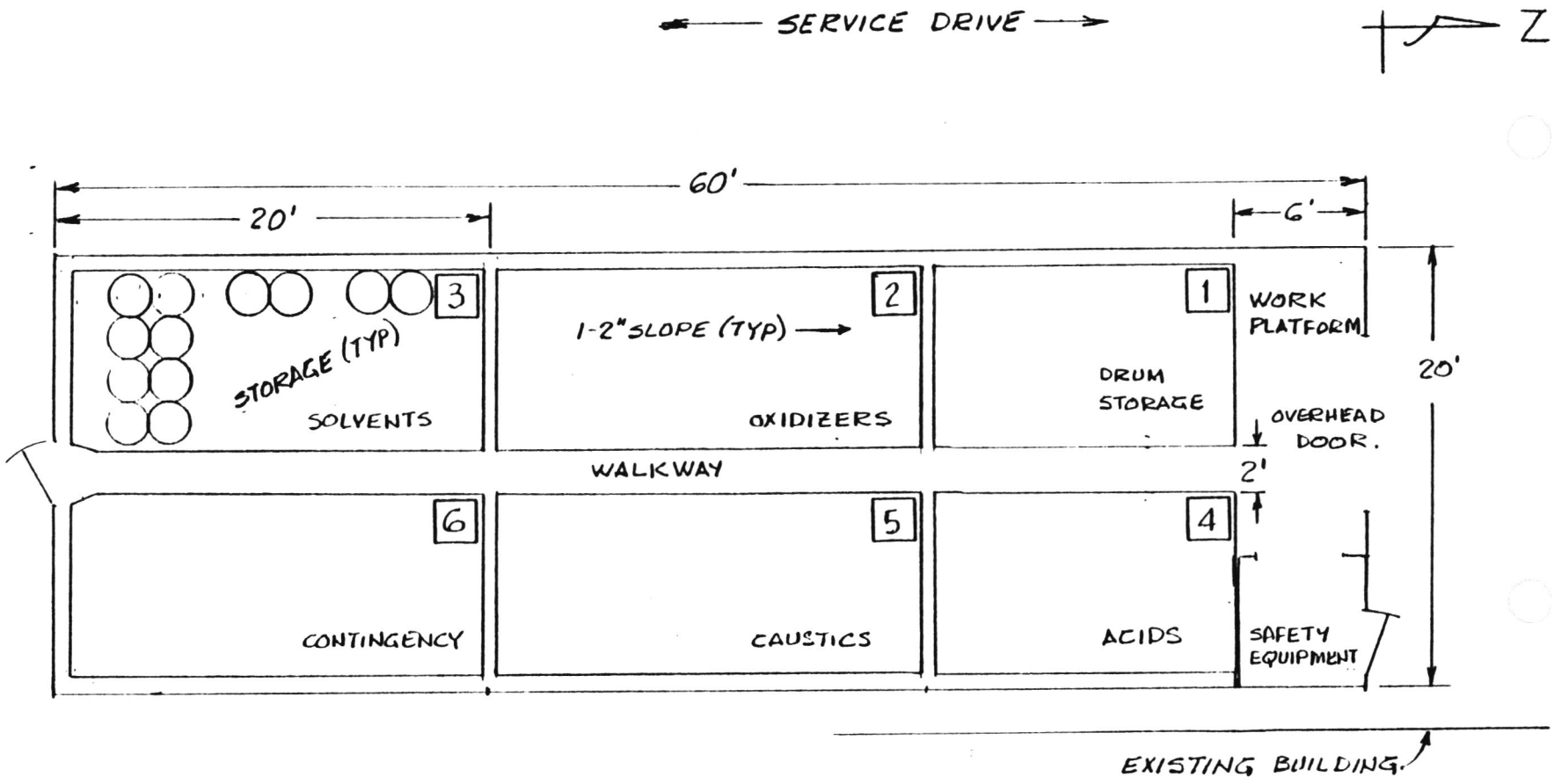
GENERIC CATEGORY	EPA HW NO.	HAZARD CODE		DESCRIPTION	WHERE USED
Chlorinated Solvents	F001	T		1,1,1-Trichloroethane Trichloroethylene	Vapor degreasers in Tumbling, parts wash, plating
Thinners	F003	I		Acetone Xylene Butyl Alcohol Cyclohexane	Various areas in fabrication and assembly
	F005	I,T		Methanol Ethyl Alcohol Denatured Alcohol Isopropyl Alcohol MEK Toluene Hexane Paint & lacquer Thinners	Various areas in fabrication and assembly
Spent Plating Baths	F007	R,T	*	Chromic Acid Cadmium cyanide Copper cyanide Silver cyanide Tin Chromate baths	Plating
Plating Sludges	F008	R,T	*	Any of F007	Plating
Spent Acids	F009	R,T	*		Plating
Heat Treat Oil Sludges	F010	R,T			Heat Treating
Heat Treat Salts	F011	R,T		Nitrate & Nitrites	Heat Treating

*Even though these are in the same "F" category, they are not to be mixed except at the direction of the senior chemist.

Note - DO NOT INTERMIX "F" CATEGORY WASTES.

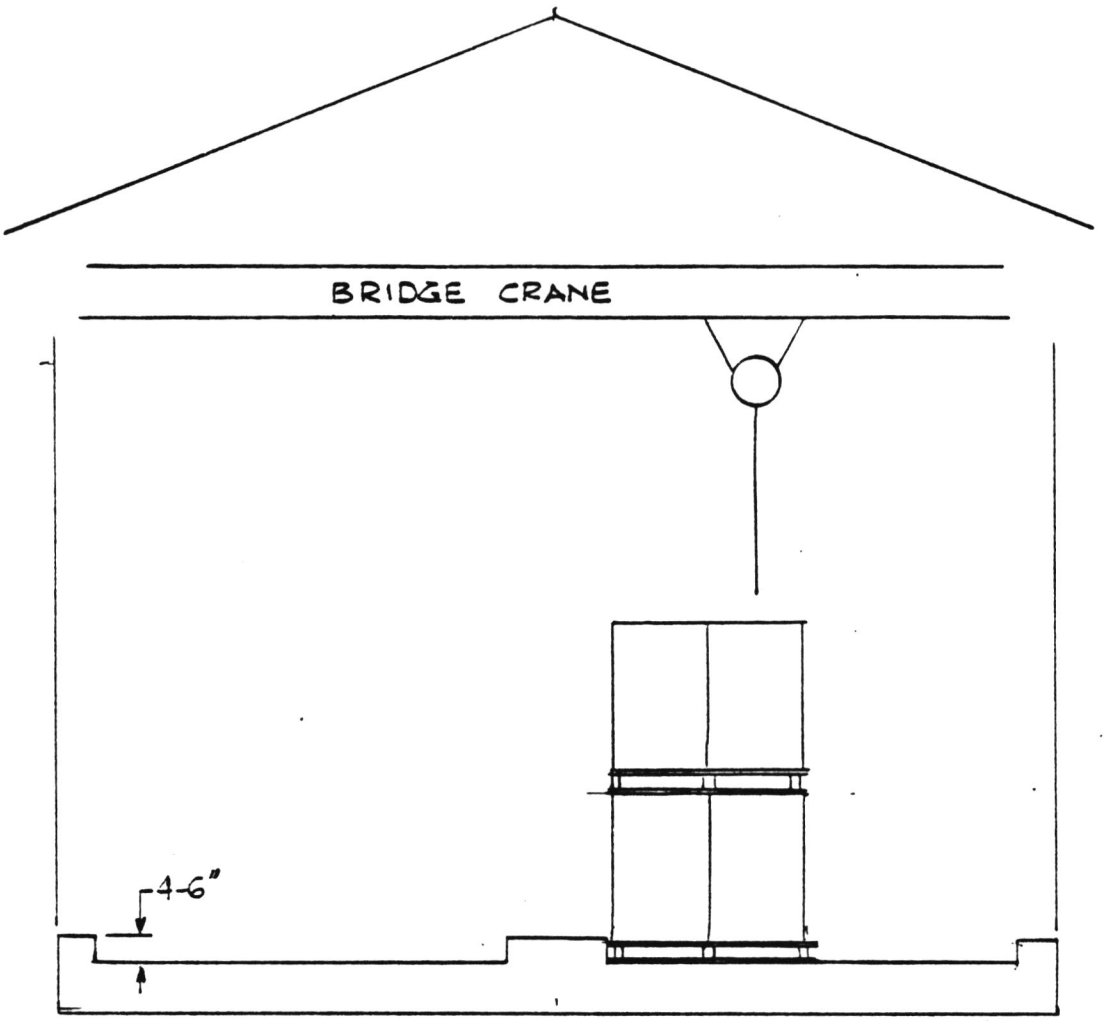
FIGURE 1



PLAN VIEW
STORAGE BUILDING

SCALE: 1" = 8'

FIGURE 2



TYPICAL END VIEW ELEVATION

SCALE: 1" = 4'

FIGURE 3

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HAZARDOUS WASTE TRAINING

We would like you to see an audio-visual program prepared by the Industrial Training Systems Company. It broadly covers the generation, storing, transporting, treating and disposing of materials defined as hazardous wastes under the regulations. We think it worthwhile to show this to all of you on a one time basis so you can see how the system is suppose to work. The subject will be reviewed at intervals for those who are intimately involved.

We hope you all will get an appreciation of the importance of waste segregation; otherwise, the people in shipping, who manifest the material, might declare a barrel to be all triclene (to the best of their knowledge) while actually it is ½ gasoline. Such confusion would continue on down the line and in fact could cause us serious disposal problems.

As you might envision, misuse of materials can only drive costs up and make the division less competitive. Consider a barrel of solvent. Not only has the price increased dramatically over the years, but the purchaser must now assume 2 or 3 times the initial cost to provide for the ultimate disposal. Society is getting complicated. No longer can we hire just any truck driver to haul waste to whatever dump he sees fit. Also, consider waste. The more you use, the more you must dispose of. And also, do not forget that severe penalties can be imposed on the company if they do not comply.

Do not be overly alarmed by this. We all tend to resist anything that requires a change. Once we get use to strict compliance, it will become more and more routine. The company has spent considerable time, effort and money in preparation for HWM, and probably most of you are already doing what is required. We specifically need the cooperation of all of you in this room.

...DO NOT USE ANY CONTAINER THAT LEAKS.

...DO NOT SEND UNMARKED CONTAINERS FOR REFILLING.

...DO NOT FILL UNMARKED CONTAINERS.

...DO NOT USE A "WORK" PAN UNLESS IT IS CLEARLY MARKED.

...DO NOT PLACE "USED" CHEMICALS INTO UNMARKED CONTAINERS.

...DO BE CERTAIN THAT "USED" CHEMICALS ARE PLACED IN THE PROPER WASTE CONTAINERS.

If you need labels or clarification, contact your supervisor.

Frankly, industry will probably never be 100% successful in the waste segregation effort. We would hope that we can be 99% correct and not 50%.

And now, the slide presentation.

Now that we have painted a horrible picture, let us say that most individuals need to understand and follow only a few simple requirements. We thought it worthwhile, however, to show all of you this slide program so that you will understand what we are trying to comply with.

2.4 Normal/Routine Operations

The slide program should have given you some grasp of the routine of the whole program. The routine in our shop will go something like this. Wastes in the solvent category will be placed in small containers by the generating departments. The small containers will be collected daily by the oiler and the contents transferred to a drum in the drum filling area. Before starting each 55 gallon drum, the Oiler must obtain a Hazardous Waste Label from the Maintenance Foreman, or the Plant Engineer. The label will be filled out completly except for the manifest number before it is supplied to the Oiler. Labels will be numbered sequentially. At the same time the Plant Engineering Department fills in the label, they will enter the information on the Hazardous Waste Log. The Oiler will affix the label to a fresh drum, and proceed with filling. When the drum is filled, he will notify the Plant Engineer's office that drum "XYZ" is filled (so that the log entry can be completed) and then move the closed drum to the Hazardous Waste Storage Building. At the time the drum later comes out of storage and is given to the transporter, the Shipping Department will assign and affix the manifest number plus any required shipping labels not already affixed.

Many wastes, other than flammable solvents, will be handled in much the same manner, except that they will not be accumulated in small containers nor go to the filling area. Normally these will occur at intervals and in larger batches. Another member of Maintenance may be assigned to help clean out a vapor degreaser or a discarded plating bath for instance. In such cases, the properly filled in Hazardous Waste labels must be affixed to the barrels on the site where they are filled and the log maintained accordingly. Again, these functions will be the primary responsibility of the Plant Engineering Department. In these cases, the labeled and closed drums will be moved directly to the storage area.

2.5 Waste Analysis

The regulations are rather explicit on this subject. The Company must have a typical analysis established for each type of waste at the first time it occurs and each time there is reason to expect a change. Most analysis require special equipment, accuracy to parts per million and cost hundreds of dollars -- a good reason to both conserve and to "do things by the book".

2.6 Record Keeping and Reporting

Hazardous Waste Log sheets go to the Safety and Security Office when filled, where they must be available to both State and Federal Administrators. In addition, the Supervisor of Safety and Security must submit an annual report plus an accident report, should one occur, and the Shipping Department must keep a manifest file, with tracers as applicable.

2.7 Security

The Company is required to maintain a complete file concerning fences, doors, guards, locks, inspections, etc. It is most important that the individual worker help us keep our record clean by helping to keep the Hazardous Waste area secure and to report any breaches of security or safety to his/her supervisor. The HWS area and filling area always should be locked when not attended.

2.8 Inspections

A complete inspection schedule and set of inspection log sheets has been submitted as we see our operations fitting the federal regulations. Inspections will be made weekly and monthly by the Plant Engineering Department and/or the Safety and Security Department. Reports must be kept on file in the Safety and Security Office.

3.0 Emergency Procedures and Contingency Plan

3.1 Emergency Coordinator

The Manager of Safety and Security is the Emergency Coordinator. He is responsible for planning for emergencies of all types and magnitudes and for presenting procedures and techniques to an Emergency Advisory Committee composed primarily of himself, the Director of Employee Relations, the Plant Engineer, the Engineering Manager of Support Engineering and the Manufacturing Manager of Assembly and Fabrication.

3.2 Emergency Procedures

This entire topic is covered in the Divisional Safety and Health Plan, under Policy E-2. Topics covered include electrical, gas and water failure, fire, explosion, floods, tornados, and release of hazardous wastes. The most likely danger with Hazardous Wastes in this plant is probably fire.

3.3 Emergency Communications/Phone Numbers and Alarms

In the Safety and Health Manual are listed the phone numbers of the Fire Department, Police, Ambulance, Hospitals, and a dozen others. Internally, special calls, listed on the cover of the Company Telephone Directory are:

...Fire - 370

...First Aid - 272

...Emergency First Aid - 345

...Guard House - 273

...Emergency Maintenance - 260

...Public Address - 8800

Certain lines are on independent power. There is an annunciator in the guard house to monitor the automatic sprinkler system, which covers the plant. As some of you know, we also have a Halon system in the computer room and some CO_2 systems in special areas.

3.4 Location, Maintenance, Inspections, and use of Emergency Equipment

There are 5 stretcher stations located along the main corridors and 5 emergency shower-eye stations located in plating, the oil house, the tumbling department and the Met Chem Lab. These are on a HW Inspection schedule as are the 200 fire extinguishers located strategically throughout the plant. In addition, these get a yearly inspection/servicing by an outside contractor.

3.5 Spill Control and Response to Ground Water Contamination Incidents

Liquid spills or leaks will be picked up by "Hazorb" or equivalent universal absorbent pillows. The "Hazorb" pillows will be stored in a closet in the north end of the HWS building. There will be an outside door, facing the guardhouse. These will be handled as per the material involved and placed in fresh containers. In the unlikely event of ground water/soil contamination, the advisory committee will decide on the best method of clean-up. The Manager of Safety and Health must report this event to the DEQ as an accident, should such occur.

3.6 Fires and Explosions

The Davenport Fire Department has agreed to be responsible for coordinating any community emergency groups which may be called in. Report such events to the Guardhouse, which will trigger appropriate decisions, then render such assistance as you can or as you are requested.

3.7 Power Interruptions or Failure

Generally speaking, the individual foremen will be responsible for disconnecting power circuits within their department to minimize switch gear damage on restarting. Main electrical disconnects are located outside, behind maintenance, for the west end of the plant, and on the mezzanine by Assembly for the east end of the plant and for engineering. Emergency lighting is automatic.

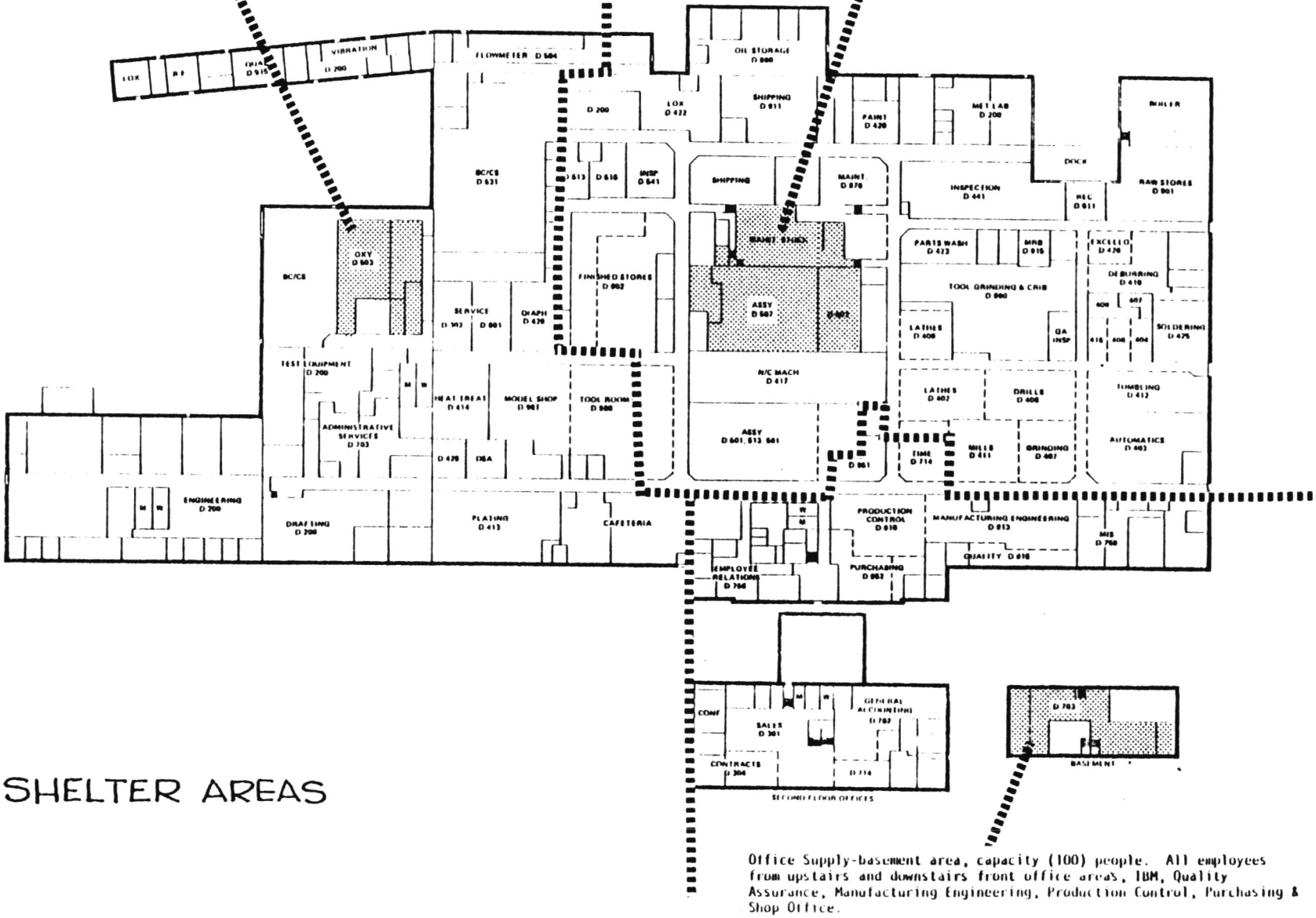
3.8 Severe Weather

The primary thing to remember is the appropriate shelter area as shown in Figure 4.

You will be notified by loudspeaker. Shut off individual machines and equipment and proceed in an orderly manner to your designated area.

Assembly Department 503 - white room, capacity (200) people. All employees from Engineering, Administrative Services, Service & Repair, Cafeteria, Model Shop and Tool Room, and Departments 413, 414, 429, 503, 504, 531.

Assembly Departments 507 and 509 - gold room, capacity (300) people. All employees from Fabrication, Final and Gage Inspection, Shipping and Receiving, RMI, Touch Up, Finished Stores, Maintenance, Tool Grinding & Crib, Raw Stores, Met Lab, and Departments 501, 502, 507, 509, 513.



Office Supply-basement area, capacity (100) people. All employees from upstairs and downstairs front office areas, IBM, Quality Assurance, Manufacturing Engineering, Production Control, Purchasing & Shop Office.

SHELTER AREAS

FIGURE 4

4.0 Detailed Instruction

4.1 Hazardous Waste Characteristics

At the mention of hazardous wastes, one might think of things like contagious disease germs or pathogens, or radioactive substances, or molten slag from a blast furnace, etc. While such things may be dangerous, they are not necessarily hazardous wastes in the present context. In dealing with RCRA, we are governed by Title 40, subpart C of the Code of Federal Regulations, which defines hazardous wastes as wastes with a certain degree of ignitability, corrosivity, reactivity or toxicity. Some waste materials could meet two or more of these definitions. We will discuss the four characteristics separately.

Ignitibility

A material which is prone to burn will have a "flash point". In testing, a sample is slowly heated up, with a flame periodically played near the surface. The temperature when the first flash occurs is the flash point. As the temperature is increased, a point will be reached where flame is sustained. This is the fire point. At some particular temperature, the material would catch fire without a flame to kindle it. This is the auto-ignition point. An example would be a unlighted match placed in an oven. A match stick without any head would have a still higher fire point. At any rate, a 140^{o} flash point is the magic number in the present instance. A waste with a flash point of 140^{o} or lower is, by definition, an ignitable hazardous waste. We have always tried to use the safest materials that would do the job at this division, but there are limits to everything. Keeping open flames away is particularly important with ignitables.

Corrosivity

The measure of whether a substance is an acid or a caustic is its "pH", which ranges from 0 to 14. Water has a pH of 7. A strong acid has a pH of 1, and a strong caustic has a pH of 13. Either extreme will "eat" certain materials. By definition, a waste is corrosive if it has a pH less than 2 or greater than 12.5, or if it will corrode mild steel beyond a specified rate at a specified temperature. Corrosives must be stored in plastic lined drums.

Reactivity

There are several criteria. Anything that is chemically unstable, that reacts violently with water, or that can be "detonated" (as with dynamite) qualifies. Our heat treat salt contains nitrate, which is one of the components of an explosive and is classed as a reactive. Generally speaking, keep reactives dry and separate from other materials.

Toxicity

This is the measure of what effect a particular substance has on animals. Any one of about 100 compounds or metals found to be present above specified limits that are known to effect laboratory animals is rated as toxic. This includes most of our plating wastes. The thing to do around toxic chemicals is to minimize exposure to the body. This is why we have "no smoking, no eating and no drinking" rules in the plating department and the soldering areas. Wash the hands well after leaving and report any symptons to First Aid.

4.2 Hazardous Wastes

The regulations mention many types of waste which are not considered hazardous, such as household refuse, garbage, trash, sewage, ashes, slag, waste water, etc. Some types listed as hazardous are things we are not involved with, such as the "U" materials (intermediates) and the "P" materials (off spec chemical products).

It has been determined that we do generate recognizable quantities of several wastes classified as "F" materials.

--F001 Wastes (Coded T for toxic) consist of vapor degreaser solvents. These can be mixed together.

--F003 Wastes (Coded I for ignitable) consist of several other solvents. We use these materials very little, but provided for them so that they can be used when needed. These can all be mixed together.

--F005 Wastes (Codes I for ignitable and T for toxic) consist of most of our flammable solvents, and is our most general class of hazardous wastes. These can be all mixed together.

--F007 Wastes (Codes R for reactive and T for toxic) consist of spent plating baths. These can not be mixed.

--F008 Wastes, though all in the same EPA group, should not be mixed indiscriminately. Fortunatly these wastes usually occur only when a spent plating bath must be discarded, and it is not that inconvenient to package them separately. These wastes consist of the sludge equivalents of F007. In other words, the liquid portion of a discarded bath should be poured into a barrel with bung, and given a F007 number. The sludge material may be placed in an open ended drum and numbered F008.

--F009 Wastes consists of spent pickling and stripping baths from plating, and are most often acids. However a few are caustics. Spent acids and caustics should not be mixed. Again, package separately. The plating tank materials will provide a clue as to the type of drum to use. In general, never place acids in unlined drums.

--F010 consists of heat treat oil sludges.

--F017 did consist of paint residues. Liquid portions should be discarded with paint thinners, under F005. In the recent past, this dried material was not considered hazardous and could be discarded with the trash.

Just a couple other comments. The small amount of continous drag-out and rinse over-flow from each plating bath goes to the sewer, and does not have to be packaged and disposed of as a hazardous waste. However, the Davenport Waste Water Treatment Plant (operating under the EPA) sends people around to sample our outlfow several times a month. It is in our interest to keep plating drag-out down, and drain-back as much as possible. Not only does this avoid penalties, but reduces the amount of chemicals which must be added to the plating baths.

Also, the coding of hazardous wastes was done by the EPA, and is a relative thing. Just because something bears a "toxic" or "ignitable" code, doesn't necessarily mean that it is as dangerous as gunpowder. We have always tried to use the least dangerous materials which would do the job. But do treat all these materials with respect.

4.3 Safety

Rubber aprons, plastic gloves and face shields are available for operator protection. In many instances, common sense will indicate when these should be worn, by both production and maintenance personnel. Concerning hazardous wastes, this protective equipment will be required when cleaning out a tank or container (until the waste has been removed) and wherever there is any danger of splashing the material on the face, or any part of the body. Flush the body area with clean water if accidentally exposed. Consult First Aid if any irritation or other symptoms persist.

Strictly avoid ingestion of the cyanide solution, or the exposure of any open sores. Consult First Aid immediately should these things happen. Food and drink are forbidden in the plating department.

Avoid the breathing of fumes (particularly of vapor degreaser solvents) by the use of exhaust fans, or adequate ventilation.

4.4 Emergencies

Spillage and container leakage are the most common unplanned events, since all these hazardous wastes are stored manually in drums at this Division, and we do not depend on any automatic pumps, pipes, tanks, or waste piles. "Hazorb" or equivalent universal sorbent "pillows" will be provided, and can be used with all of the liquids involved. These pillows are porous polyolefin envelopes filled with amorphous silica and a one pound pillow will absorb up to two gallons of liquid in 30 seconds. Wear protective clothing when cleaning up. The saturated "pillows" are to be placed in open top drums and re-identified. Use plastic liners for F009 chemicals, or any plating chemicals.

The F003 and F005 solvents are all flammable and explosive. The dry powder fire extinguishers can be used with both classes. Alert supervision immediately in the event of any fire, and report any injuries to First Aid. Do not expose to flames, sparks, welding, cutting or similar situations.

All of the above refuse is still hazardous waste and must be dealt with accordingly. An alternate treatment for acids or caustics (F009) which renders them inactive and harmless is to spread sodium bicarbonate on an acid, or citric acid on a caustic until the foaming activity ceases. The material may then be disposed of as trash, but this must be explained in records after the emergency is past.

4.5 Inspections

Periodic inspection of Safety and Emergency Equipment, Security Devices, and the Container filling and Storage Areas are a vital and important part of our HWM Plan. The inspection logs, as well as other logs in the Plan, must be available for review and inspection by the EPA or Iowa DEQ. The items which need to be inspected are detailed in Figures 5 and 6. It is important that you request your supervisor take action on any of these items which are defective.

4.6 Identification and Inventory Control

It is mandatory that all Hazardous Waste storage containers be properly identified. Figure 7 shows the label which we will use. The only item which will not be completed is the "Manifest Document No.____." This will be filled in by Shipping at the time the container is shipped from the facility. Note that (1) each container will have a distinctive identification number, and (2) the material terminology used in the plant is in the left margin of the label. If you notice any discrepancy, notify your supervisor.

Figure 8 is the Hazardous Waste Log which we must maintain for inventory control purposes. Any input you have should be exact and precise.

INSPECTION SCHEDULE

Area/Equipment	Specific Item	Types of Problems	Frequency of Inspection
Safety and emergency equipment			
	Universal absorbents and neutralizers	Out of stock	Monthly
	Drums (steel)	Out of stock	Monthly
	Emergency shower	Water pressure, leaking, drainage	Monthly
	Face shields and extra protective eyeglasses	Broken or dirty equipment	Monthly
	Chemical cartridge respirators for organic vapors and acid gases	Out of stock supplies	Monthly
	Self-contained breathing apparatus (SCBA)	Air quantity in reserve, air delivery system, moisture in tank (cold weather)	Monthly
	Fire extinguishers	Needs recharging	Monthly
	Fire alarm system	Power failure	Monthly
	Telephone system	Power failure	Monthly
	Public address (PA) system	Power failure, speakers	Monthly
	Generators	Operational	Monthly
	Emergency lighting system	Battery failure, lights	Monthly
	First aid equipment and supplies	Items out of stock or inoperative	Monthly
	Protective clothing-coveralls	Holes, normal wear and tear	Monthly
Security devices			
	Facility fence	Corrosion, damage to chain-link fence or barbed wire	Monthly
	Main gate and lock	Corrosion, damage to chain-link fence or barbed wire	Monthly
	East gate and lock	Corrosion, damage to chain-link fence or barbed wire	Monthly
Container filling and storage areas			
	Container placement and stacking	Aisle space, height of stacks	Weekly
	Sealing of containers	Open lids	Weekly
	Labeling of containers	Improper identification, date missing	Weekly
	Containers	Corrosion, leakage, structural defects	Weekly
	Segregation of incompatible wastes	Storage of incompatible wastes in same area	Weekly
	Pallets	Damaged (e.g., broken wood, warping, nails missing)	Weekly
	Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Curbs	Cracks, deterioration	Weekly
	Warning signs	Damaged	Weekly
	Access	Blocked or restricted	Weekly

FIGURE 5

SAFETY AND EMERGENCY EQUIPMENT INSPECTION LOG SHEET

Inspector's Name/Title_____

Date of Inspection_____(Month/Day/Year) Time of Inspection_____(Military Time)

Item	Types of Problems	STATUS		Obserations	Date and Nature of repairs/remedial action
		OK	Reject		
Universal absorbents ½ lb. pillows, 60 minimum	Out of stock				
Citric Acid - 5 lb. package (granular or powder) - 2 minimum	Out of stock				
Sodium Bicarbonate - 5 lb. package - 2 minimum	Out of stock				
For emergency use only, minimum 2 closed head, unlined 55 drums	Out of stock				
83 gallon steel salvage drums - 3 minimum	Out of stock				
Emergency showers - One in oil house, adjacent to Hazardous Waste filling area. One in Dept. 412, adjacent to Hazardous Waste storage area. Two in Plating Dept.	Water pressure, leaking, drainage				
Face shield - One in Oil House. One in Storage Area.	Missing, broken or dirty equipment				
Chemical cartridge respirators for organic vapors and acid gases.	Minimum stock (3)				
Self-contained breathing apparatus Sott Air Pack type	Air quantity in reserve, air delivery system, moisture in tank (cold weather)				
Fire extinguishers	Needs recharging				

FIG. 6

SAFETY AND EMERGENCY EQUIPMENT INSPECTION LOG SHEET

Inspector's Name/Title_____

Date of Inspection_____(Month/Day/Year) Time of Inspection_____(Military Time)

Item	Types of Problems	STATUS		Obserations	Date and Nature of repairs/remedial action
		OK	Reject		
Fire alarm system	Power failure				
Telephone system	Power failure				
Public address system	Power failure, speakers				
Generators	Inoperative				
Emergency lighting system	Battery failure, lights				
First Aid equipment and supplies	Items out of stock or inoperative				
Protective clothing, flame resistant, disposable, 2 minimum	Holes, normal wear and tear Out of stock				
Facility fence	Corrosion, damage to chain link fence or barbed wire				
Main gate and lock	Corrosion, damage to chain link fence or barbed wire; inoperable lock				
East gate and lock	Corrosion, damage to chain link fence or barbed wire; inoperable lock				
Container filling and storage areas	Corrosion, damage to fence, inoperable locks				

FIG. 6

CONTAINER FILLING AND STORAGE AREA INSPECTION LOG SHEET

Inspector's Name/Title_____

Date of Inspection_____(Month/Day/Year) Time of Inspection_____(Military Time)

Item	Types of Problems	STATUS		Observations	Date and Nature of repairs/remedial action
		OK	Reject		
Container placement and stacking	Aisle space, height of stacks				
Sealing of containers	Open lids				
Labeling of containers	Improper identification, date missing				
Containers	Corrosion, leakage, structural defects				
Segregation of Incompatible wastes	Storage of incompatible wastes in same area				
Pallets	Damaged (e.g. broken wood, warping, nails missing)				
Base or foundation	Cracks, spalling, uneven settlement erosion, wet spots				
Curbs	Cracks, deterioration				
Debris and refuse	Aesthetics, possible reaction with leaks				
Warning signs	Damaged, missing				

FIG. 6

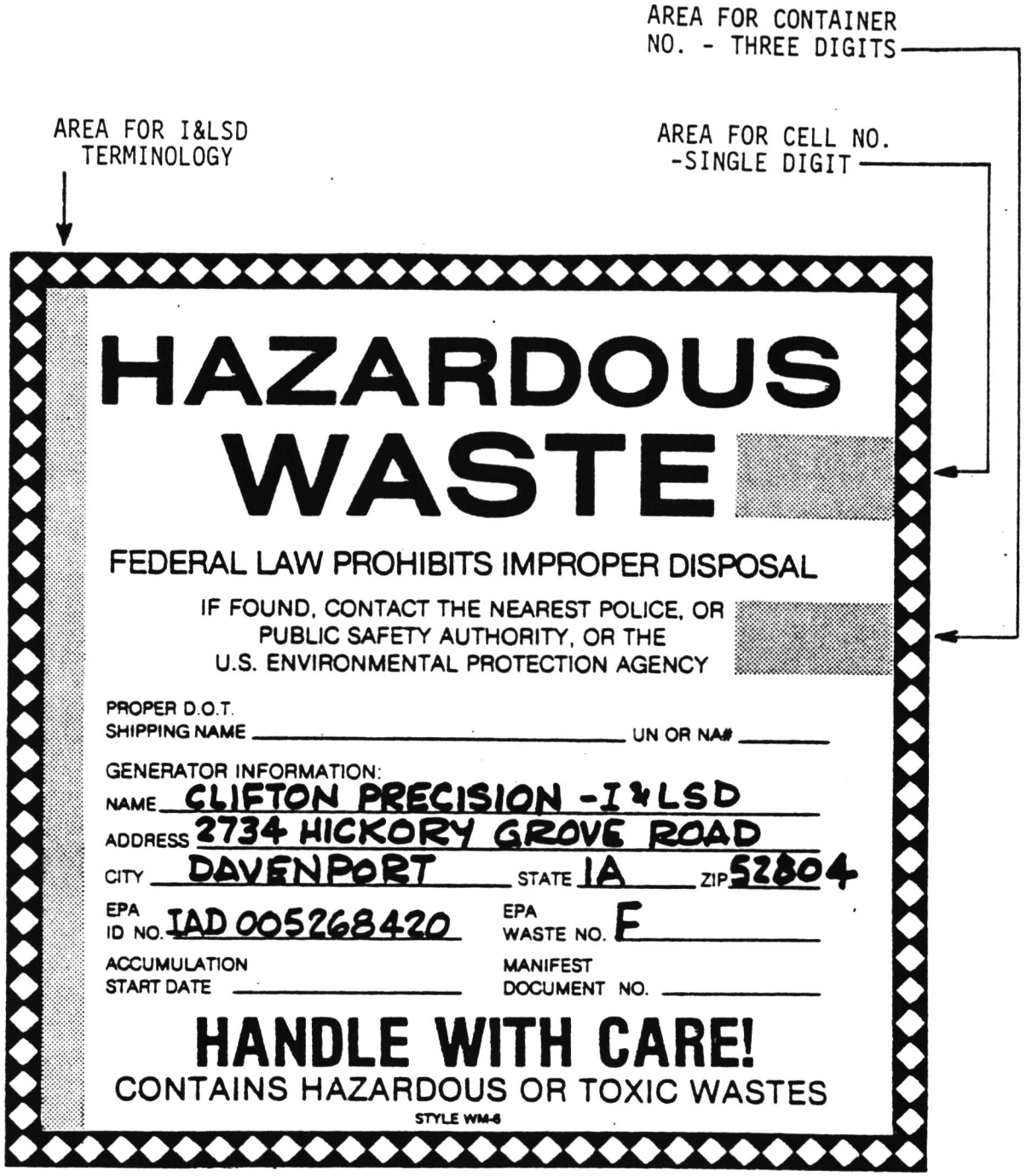
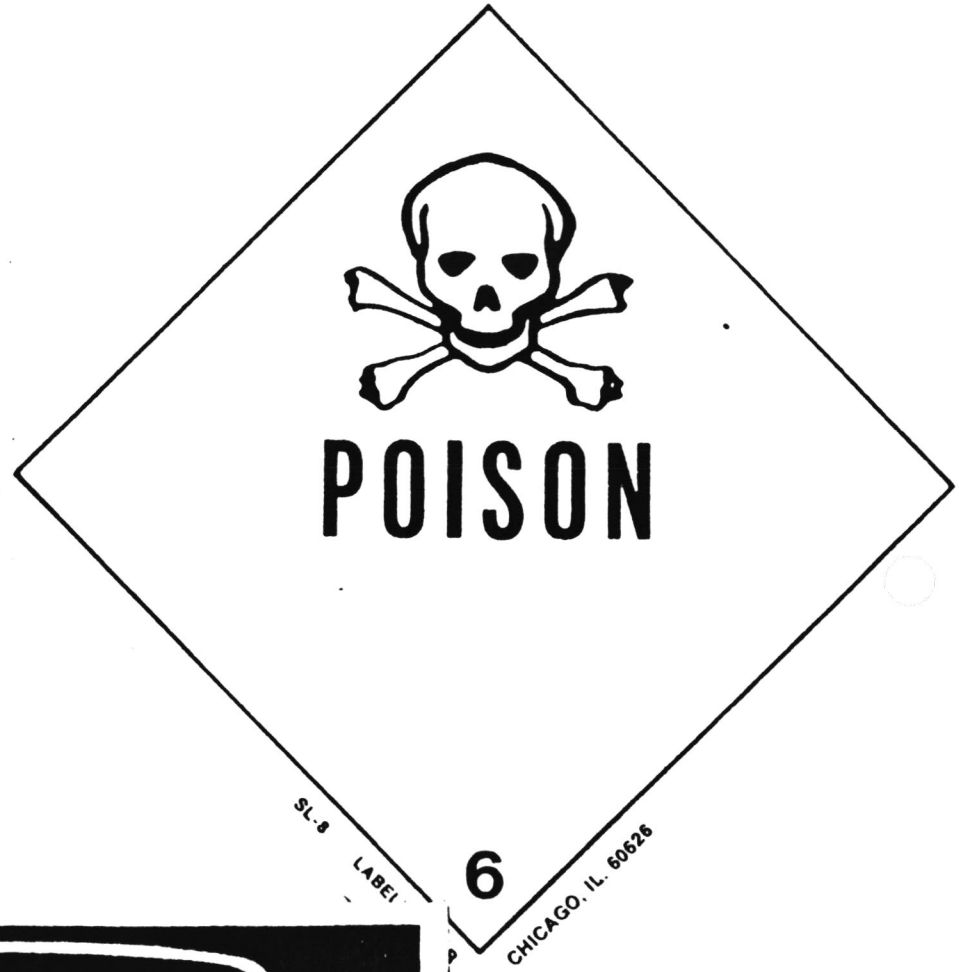

AREA FOR CONTAINER NO. - THREE DIGITS
AREA FOR I&LSD TERMINOLOGY
AREA FOR CELL NO. -SINGLE DIGIT
HAZARDOUS WASTE
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
PROPER D.O.T. SHIPPING NAME
UN OR NA#
GENERATOR INFORMATION:
NAME CLIFTON PRECISION - I&LSD
ADDRESS 2734 HICKORY GROVE ROAD
CITY DAVENPORT STATE IA ZIP 52804
EPA ID NO. IAD 005268420
EPA WASTE NO. F
ACCUMULATION START DATE
MANIFEST DOCUMENT NO.
HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES
STYLE WM-6

FIGURE 7

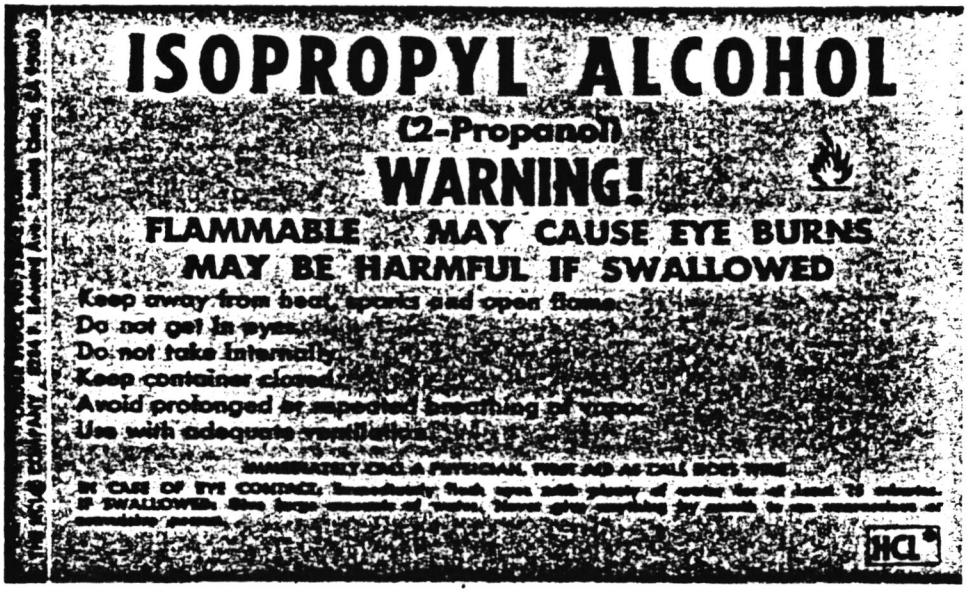


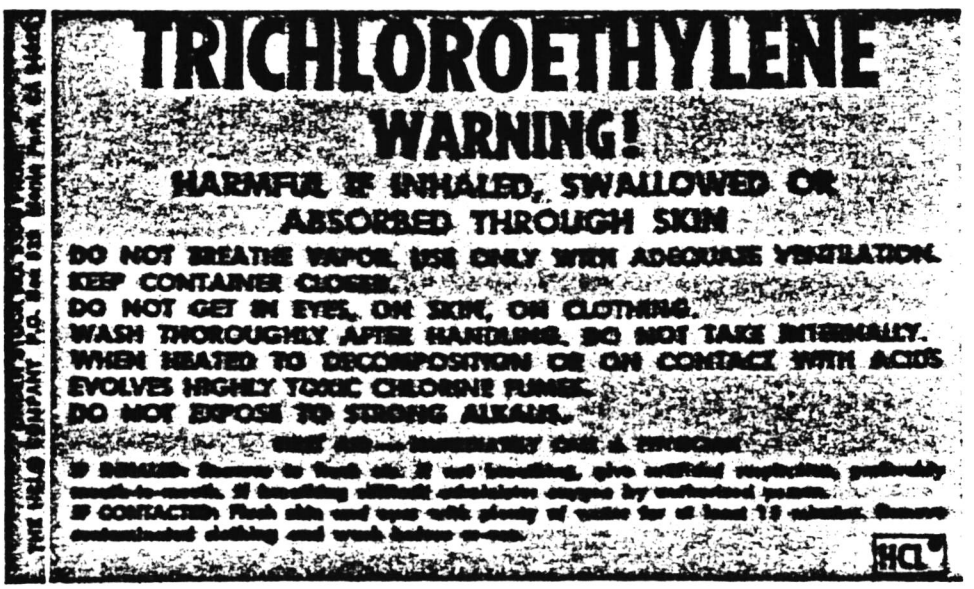
DANGER

ACID

CAUSTIC

W H BRADY CO. STOCK NO. 46127


ISOPROPYL ALCOHOL
(2-Propanol)
WARNING!
FLAMMABLE. MAY CAUSE EYE BURNS
MAY BE HARMFUL IF SWALLOWED
Keep away from heat, sparks and open flame.
Do not get in eyes.
Do not take internally.
Keep container closed.
Avoid prolonged or repeated breathing of vapor.
Use with adequate ventilation.
HCL


TRICHLOROETHYLENE
WARNING!
HARMFUL IF INHALED, SWALLOWED OR
ABSORBED THROUGH SKIN
DO NOT BREATHE VAPOR. USE ONLY WITH ADEQUATE VENTILATION.
KEEP CONTAINER CLOSED.
DO NOT GET IN EYES, ON SKIN, OR CLOTHING.
WASH THOROUGHLY AFTER HANDLING. DO NOT TAKE INTERNALLY.
WHEN HEATED TO DECOMPOSITION OR ON CONTACT WITH ACIDS
EVOLVES HIGHLY TOXIC CHLORINE FUMES.
DO NOT EXPOSE TO STRONG ALKALIS.
HCL

Joe Gee 75

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) COMPLIANCE EVALUATION INSPECTION for Litton-Clifton Precision Instruments and Life Support Division

2734 Hickory Grove Road
Davenport, Iowa 52804
EPA I.D. Number IAD005268420

Inspected July 13, 1983

Submitted by: PEDCo Environmental, Inc.
7331 Madison Avenue
Kansas City, Missouri 64114

Submitted for: A. T. Kearney
699 Prince Street
Alexandria, Virginia 22313

Submitted to: Jane Ratcliffe, Regional Project Officer
Joe Galbraith, Task Manager
U.S. Environmental Protection Agency
Region VII
324 East Eleventh Street
Kansas City, Missouri 64106

In response to: EPA Contract 68-01-6515
Work Assignment No. R07-004
PN 3597-17-4I

July 1983

INTRODUCTION

On Wednesday, July 13, 1983, Thomas D. Robertson of PEDCo Environmental, Inc. (an EPA contractor) conducted a RCRA compliance evaluation inspection at the Litton-Clifton Precision Instrument and Life Support Division facility located in Davenport, Iowa. Mr. Paul Bohnsack, facility manager of safety and security, and Mr. David Whitting with the Iowa Department of Water, Air and Waste Management participated in the inspection. The purpose of this inspection was to determine whether the facility was in compliance with RCRA interim status requirements and to verify and clarify information contained in its RCRA permit application.

At 10:30 a.m. PEDCo met Mr. Whitting in the facility parking lot and briefly reviewed a past compliance inspection report. The two inspectors presented credentials to the receptionist and requested to meet with Mr. Paul Bohnsack, the facility's designated contact person. After the scope and purpose of the inspection were explained, Mr. Bohnsack took the inspectors to his office where the administrative records were reviewed. A plant tour was then conducted and an exit interview held. Photographs that were taken are attached to this report.

RCRA INSPECTION

Unless noted otherwise, the following compliance-related observations are the only areas of concern:

I. GENERATOR STANDARDS, 40 CFR 262

A. SUBPART A - GENERAL

1. The facility had 12 drums in storage labeled as D002 corrosive waste with varying dates (10-82 to 6-83). It appeared that the labels originally indicated F007; however, at the time of inspection they clearly indicated D002. D002 corrosive waste does not appear on the applicant's Part A application nor does it appear on the facility's notification forms. 40 CFR 262.11

2. The facility had three plastic carboys labeled as waste acids (see Photo Number 3). This waste was comingled with their nonhazardous solid waste (metal shavings). Mr. Bohnsack could not explain why the carboys were located among the nonhazardous waste nor could he say if the waste was hazardous or not. 40 CFR 262.11

B. SUBPART B - THE MANIFESTS

1. The facility is not designating alternate TSD facilities, nor is it instructing transporters to return the waste if it is undeliverable as specified on the manifest document. 40 CFR 262.20

2. The facility is using preprinted manifest forms required by the states of Illinois and Minnesota. Each of these states has modified the certification required by 40 CFR 262.21(b).

3. The facility differentiates between containerized wastes that are in storage and containerized wastes that are in accumulation (see Photo Number 7). The containers in accumulation are not uniquely labeled, although a stenciled sign above the container indicates its content. The date upon which accumulation began is not marked, and the drums are not kept closed except when waste is added or removed. 40 CFR 262.34

II. INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT STORAGE AND DISPOSAL FACILITIES, 40 CFR 265

A. SUBPART A - GENERAL

1. Nine drums (see Photo Number 6) of waste at the facility were stored in an area other than that designated on the Part A application. The drums were all in excellent condition and were stored inside the shipping and receiving area. The dock storage area was not overly crowded. The nine drums included:

   - 1 drum of cyanide waste - F007 - dated 2/4/83
   - 5 drums of cyanide waste - F007 - dated 6/28/83
   - 2 drums of solvent waste - F001 - dated 7/6/83
   - 1 drum of solvent waste - F005 - dated 6/28/83

2. The facility had generated one drum of hazardous waste D005 and placed it in the storage area. This type of hazardous (barium EP toxic) waste does not appear on the applicant's Part A application nor does it appear on the notification form. The waste was inside a 110-gallon overpack drum. The label indicates that accumulation began May 17, 1983. It should be noted that less than 90 days had elapsed since May 17, 1983, and it was not necessary to secure an interim waste storage area.

B. SUBPART B - GENERAL FACILITY STANDARDS

1. The facility does not have detailed chemical and physical analyses of the waste acids and corrosive materials referred to in Sections I.A.1 and 2. 40 CFR 265.13

2. The facility has not implemented the inspection schedule presented in the Part B application nor has it documented that any inspections of the containers and container storage area have been completed. Fire fighting equipment has reportedly been inspected annually by the facility's insurance underwriters; however, documentation was not available at the time of the inspection. Security fences are reportedly inspected by the

facility's contact ground service (Pinkerton); however, documentation was not available at the time of the inspection. 40 CFR 265.15

3. Personnel training records were not available for the emergency coordinator or the designated alternates. 40 CFR 265.16

C. SUBPART D - CONTINGENCY PLAN AND EMERGENCY PROCEDURES

1. Neither the emergency coordinator nor designated alternates have authority to commit the resources needed to carry out the contingency plan. (See the emergency plan Section G of Part B application for limitations of authority.) Additionally, it was apparent that the alternate emergency coordinators were not thoroughly familiar with all aspects of the facility's operations, especially the location of records. 40 CFR 265.55

2. The facility has not formally established a procedure for designating an emergency coordinator to be on call after hours, during holidays, etc. 40 CFR 265.55

D. SUBPART E - MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING

1. The operating record does not address the location and quantity of the wastes referred to in Sections I.A.1, I.A.2, II.A.1, or II.A.2. Additionally, the record does not include inspection logs. 40 CFR 265.73

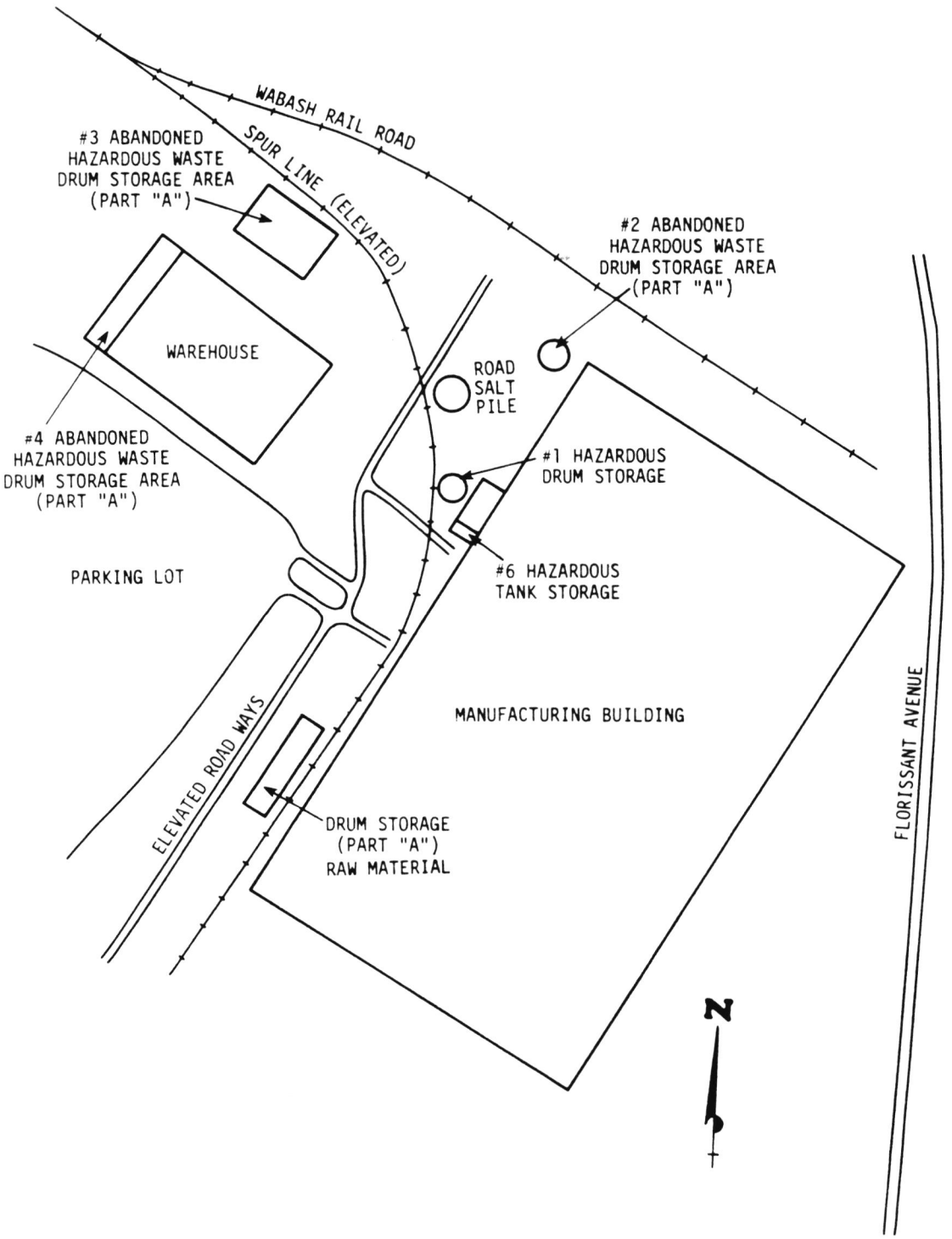
III. PERMIT-RELATED ISSUES

A. The existing storage area is stained and etched and shows signs of superficial contamination. (See Photos 4 and 5.) The area is not used exclusively for storing hazardous waste. All of the drums visible in Photo Number 4 contain solid wastes, primarily cutting oils being held for recycle. The inspector was unable to determine the cause or content of the stains that are evident in the pictures.

B. The company's training plan should be expanded to include the emergency coordinators. There is only one person in each of the job descriptions provided in the facility's January 27, 1983, letter to Harrington.

C. The Part B application should address corrosive waste management activities.

D. The application should specify the minimum secondary aisle space needed to allow proper inspection of each storage cell in the proposed storage building.



Emmerson Electric Company
St. Louis, Missouri
EPA ID No. MOD 00629633

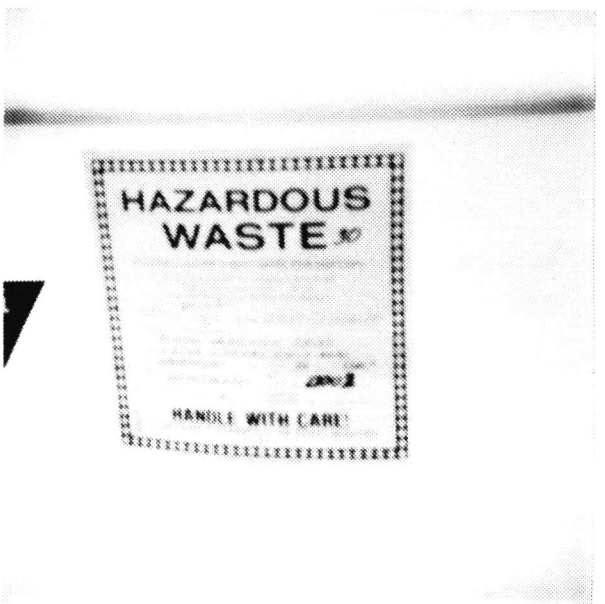
LIST OF PHOTOGRAPHS
LITTON-CLIFTON PRECISION INSTRUMENTS

Photo Number	Description
1	Shows label of D002 - corrosive waste
2	Shows label of D002 - corrosive waste
3	Shows plastic carbon of waste acid among drums of solid waste being held for recycling
4	Shows storage dock and stain on walls and driveway
5	Shows storage dock and stains, etchings of base
6	Shows drums inside of shipping and receiving area
7	Shows drums in the accumulation area

#1


CORROSIVE
HAZARDOUS
WASTE
HANDLE WITH CARE

#2

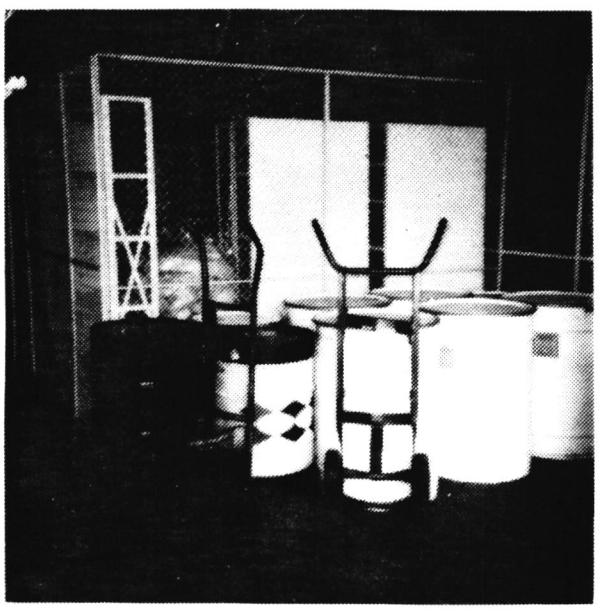

HAZARDOUS
WASTE
HANDLE WITH CARE

#3

#4

#5

#6



#7

U.S. ENVIRONMENTAL PROTECTION AGENCY

RCRA INSPECTION
CONFIDENTIALITY NOTICE

Name and Address of Inspector(s)	Name and Address of Facility
PEDCO ENVIRONMENTAL INC 2420 PERSHING RD SUITE 300 KANSAS CITY MO 64108 [illegible] ROBERTSON	CLIFTON PRECISION INSTRUMENTS & LIFE SUPPORT DIVISION 2734 HICKORY GROVE ROAD DAVENPORT - IOWA - 52804 Owner, Operator, or (Agent in Charge) PAUL E. BOHNSACK Title MGR - SAFETY & SECURITY Address SAME.

Name of Individual to Whom Notice Given	Title	Date
PAUL BOHNSACK	MGR - SAFETY [illegible]	[illegible]

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 U.S.C. 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Resource Conservation and Recovery Act, Section 3007, EPA is required to make inspection data available in response to FOIA requests, unless the Administrator of the Agency determines that the data contains information entitled to confidential treatment.

Any or all of the information collected by EPA during the inspection may be claimed confidential, if it relates to trade secrets or commercial or financial matters that you consider to be confidential. If you make claims of confidentiality, EPA will disclose the information only to the extent, and by the means of the procedures set forth in the regulations (cited above) governing EPA's treatment of confidential information. Among other things, the regulations require that the EPA notify you in advance of publicly disclosing any information you have claimed and certified confidential.

To claim information confidential, you must certify that each claimed item meets all of the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.

2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).

3. The information is not publicly available elsewhere.

4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential and meets the four criteria listed above.

RCRA INSPECTION CONFIDENTIALITY NOTICE	Facility

If you are not authorized by your company to make confidentiality claims, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials, to the Owner, Operator, or Agent in Charge of your firm, within two days of this date. That person must return a statement, specifying any information which should receive confidential treatment.

The statement from the Owner, Operator, or Agent in Charge should be addressed to:

Mrs. Louise D. Jacobs
Director, Enforcement Division
United States Environmental Protection Agency
324 E. 11th Street
Kansas City, Missouri 64106

and mailed by registered, return-receipt requested mail within seven (7) calendar days of receipt of this Notice.

Failure by your firm to submit a written request that information be treated as confidential, either at the completion of the inspection or by the Owner, Operator, or Agent in charge, within the seven-day period, will be treated by the EPA as a waiver by your company of any claims for confidentiality regarding the inspection data.

To be completed by the facility official receiving this Notice:

I have received and read this Notice.

Name PAUL E. BOHNSACK

Title MGR-SAFETY & SECURITY

Signature Paul E. Bohnsack

Date 13 JULY 1983

If there is no one on the premises of the facility who is authorized to m business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the Owner, Operator, or Agent charge of the company. If there is another company official who should a receive this information, please designate below:

Name _____

Title _____

Address _____

_____

[Subpart I Section 265.170 - "General Operating Requirements"

Inspection file No:

Name of Facility: Litton - Clifton TSD

Address: 2734 Hickory Grove

Reviewer:

EPA Generator ID Number: TXD005268420

Date Reviewed:

Facility Inspection Representative: Paul Bohnsack

Title: Manager of Safety and Training

Form "1"

Telephone Number:

The questions contained in this checklist apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as Section 265.1 provides otherwise.

ert. Regs. 40 C.F.R. Part:		
265.171	1. Are all containers in good condition, i.e., not showing signs of leakage or corrosion or any other deterioration/deformation?	(Yes) No
5.171	2. Are containers lined or made of materials compatible with hazardous wastes placed into them so that the container will not react or corrode with the hazardous wastes?	(Yes) No
5.173(a)	3. Are all containers holding hazardous waste kept closed during storage?	(Yes) No
5.174	4. Are areas where hazardous waste containers are stored inspected by the owner/operator at least once a week?	Yes (No)
5.15(d) 5.15(b)	5. Is an inspection log maintained? (See question #3 of TSD checklist.)	Yes (No)
5.176	6. Are containers holding ignitable or reactive waste located at least 50 ft. from the facility's property line?	(Yes) No
5.177(a)	7. Are incompatible wastes placed in the same container? (See Appendix 5 for examples.)	Yes (No)
5.177(c)	8. Are storage containers holding hazardous wastes which are incompatible with nearby materials stored in containers, tanks, piles, or surface impoundments separated by dikes, berms, walls, or other devices?	Yes (No)

J

1. Are there any tanks which are not being used which the facility no longer plans to use? ___yes___no

   a. If yes, has all hazardous waste and hazardous waste residue been removed from these tanks, discharge control equipment, and discharge confinement structures? ___yes___no

265.192 2. Are tanks presently used to treat or store waste? ___yes___no

   a. If no, do not complete rest of form.
   b. If yes, check tanks.

   Is there evidence that incompatible wastes have been placed in the tank? Is there evidence of any ruptures, leaks or corrosion? (Use narrative explanations sheet) ___yes___no

3. Are there any uncovered tanks? ___yes___no

   a. If no, do not complete B-E
   b. If yes, do they have 2 feet (60cm) freeboard? ___yes___no

   or

   c. A containment structure? (e.g. dike or trench) ___yes___no

   or

   d. A drainage control system? ___yes___no

   or

   e. A diversion structure? (e.g. standby tank) ___yes___no
   (NOTE: The structure in c, d or e must have a capacity that equals or exceeds the volume of the top 2 feet (60cm) of the tank.

4. Are any of the tanks continuous feed? ___yes___no

   a. If yes, is it equipped with a means to stop inflow (e.g. waste feed cutoff or by-pass to a stand-by tank)? ___yes___no

2.

265.193 Waste Analysis

5. Is the tank used to store one waste exclusively? ___yes___no

   a. If no, what are the different wastes stored in the tank? (Use narrative explanations sheet)

   b. Are waste analyses and trial treatment or storage tests done on these different wastes? ___yes___no

      (1) If no, does he have written, documented information on similar storage or treatment of similar wastes? ___yes___no

   c. Are there records available of these waste analyses in the operating record? ___yes___no

265.194 Inspections:

6. Does the owner/operator inspect the following at least daily? ___yes___no

   a. Discharge control equipment (e.g. waste feed cut-off, by pass and/or drainage systems)? ___yes___no

   b. Monitoring equipment (e.g. pressure and temperature gages)? ___yes___no

   c. Level of waste in each uncovered tank? ___yes___no

7. Does the owner/operator inspect the following at least weekly? ___yes___no

   a. Construction materials of tanks for corrosion or leaks? ___yes___no
   b. Construction materials of and area surrounding discharge confinement structures for erosion or signs of leakage? ___yes___no

8. Is a written schedule of these inspections kept at the facility? ___yes___no

9. Does the facility maintain a record of the closure plan on site? ___yes___no

10. Are ignitable or reactive wastes placed in tanks? ___yes___no

   a. If yes, are they treated, rendered or mixed before or immediately after placement in the tank so it no longer meets the definition of ignitable or reactive? ___yes___no

   Or

   b. Is the waste protected from sources of ignition or reaction? ___yes___no

3. (continued)

(1) If yes, use narrative explanations sheet to describe separation and confinement procedures

(2) If no, use narrative explanations sheet to describe sources of ignition or reaction

or

c. Is the tank used solely for emergencies? ____yes___no

11. Are incompatible wastes placed in the same tank? ____yes___no

12. If a waste is to be placed in a tank that previously held an incompatible waste, was that tank washed? ____yes___no

a. If yes, describe washing procedures (Use narrative explanations sheet)

Describe how it is possible for incompatible waste to be placed in the same tank. (Use narrative explanations sheet)

Subpart K

SURFACE IMPOUNDMENTS CHECKLIST

1. Are there any surface impoundments which are not being used which the facility does not plan to use in the future? ___yes__no

   a. If yes, has all hazardous waste and hazardous waste residue been removed from the impoundment? ___yes__no

2. Are impoundments presently used to treat or store waste? ___yes__no

   a. If no, do not complete rest of form.
   b. If yes, check impoundments.

265.222 3. Does the impoundment appear to maintain at least 2 feet (60 cm) of freeboard? ___yes__no

4. Is there evidence of overtopping of the dike? ___yes__no

265.223 5. Does the impoundment have a containment system? ___yes__no

   a. Does the earthen dike have a protective cover (e.g. grass, shale, rock) to minimize wind and water erosion? (Use narrative explanations sheet) ___yes__no

6. What wastes are treated in the impoundment? (Use narrative explanations sheet)

265.225 7. Are waste analyses and trial tests conducted on these wastes? ___yes__no

   a. If not, does the owner/operator have written documented information on similar treatment of similar wastes? ___yes__no

8. Is this information retained in the operating record? ___yes__no

9. Is the impoundment inspected daily to check freeboard level? ___yes__no

10. Is the impoundment, dikes and vegetation surrounding the dike inspected weekly to detect leaks, deterioration or failures? ___yes__no

11. Does the facility maintain a record of the closure plan on site? (Effective May 19, 1981) ____yes___no

12. Are ignitable or reactive wastes placed in the impoundment? ____yes___no

    a. If no, do not complete b and c.
    b. If yes, are they treated, rendered or mixed before or immediately after placement in the impoundment so it no longer meets the definition of ignitable or reactive? ____yes___no

    or

    c. Is the impoundment used solely for emergencies? ____yes___no

13. Are incompatible wastes placed in the impoundment? ____yes___no

WASTE PILES CHECKLIST

NOTE: Waste piles may also be managed as a landfill.

265.251 1. Is the pile containing hazardous waste protected from wind? ____yes__no

265.252 2. Is a representative sample of waste from each incoming shipment analyzed before the waste is added to the pile to determine the compatibility of the wastes? ____yes__no

3. Does the analysis include a visual comparison of color and texture? ____yes__no

265.253 4. Is the leachate or run-off from the pile considered a hazardous waste? (Effective November 19, 1981) ____yes__no

a. If yes, is the pile managed with the following?

(1) An impermeable base compatible with the waste? ____yes__no
(2) Run on diversion? ____yes__no
(3) Leachate and run-off collection? ____yes__no

or

b. 1. Is the pile protected from precipitation and run-on by some other means? ____yes__no

265.256 5. Are ignitable or reactive wastes placed in the pile? ____yes__no

a. If yes, does the addition of the waste result in the waste or mixture no longer meeting the definition? ____yes__no
(Use narrative explanation sheet to describe procedure)

or

b. Is the waste protected from sources of ignition or reaction? ____yes__no

(1) If yes, use narrative explanations sheet to describe separation and confinement procedures.

(2) If no, use narrative explanations sheet to describe sources of ignition or reaction.

6. Is the pile separated from other sources of reaction by a dike, berm or wall? ____yes__no

7. Is there evidence of fire, explosion, gaseous emissions, leaching or other discharge? (Use narrative explanation sheet) ____yes__no

Subpart

M

LAND TREATMENT CHECKLIST

265.272 1. Is run-on diverted away from the land treatment facility (Effective May 19, 1981) ____yes___no

2. Is run-off from the land treatment facility collected? (Effective May 19, 1981) ____yes___no

3. Is the runoff analyzed to see if it is a hazardous waste? ____yes___no

a. If the run-off is considered hazardous, how is it handled? (Use narrative explanations sheet)

b. If it is not a hazardous waste, is it discharged through a point source to surface waters? ____yes___no

(1) If yes, list NPDES Permit No._____

4. What hazardous wastes are treated at the land treatment facility?

Subpart D Listed Wastes

Characteristic Wastes (EP Toxicity)

265.273 A. For those listed wastes, were analyses done to determine the concentrations of those constituents which caused the waste to be listed?

(1) If yes, what are these concentrations? (Use narrative explanation sheet)

B. For those characteristic Wastes (EP) Toxicity, what are the concentrations of the following

	Concentration (Mg/l)	Waste
Arsenic		
Barium		
Cadmium		
Chromium		
Lead		
Mercury		
Selenium		
Silver		
Endrin		
Lindane		
Methoxychlor		
Toxaphene		
2,4 D		
2,4,5-TP Silvex		

265.276 5. Are food chain crops grown? ____yes__no

a. If yes, what are the concentrations of the following in the soil and vegetation.

	Soil Concentration (mg/l)	Vegetation Concentration (mg/l)
Arsenic		
Cadmium		
Lead		
Mercury		

6. Did the facility notify the RA that he is growing food chain crops? ____yes__no

7. Is the following information kept at the facility? ____yes__no

a. Tests for the specific wastes and application rates being used at the facility? ____yes__no
b. Crop characteristics? ____yes__no
c. Soil characteristics? ____yes__no
d. Sample selection criteria? ____yes__no
e. Sample size determination? ____yes__no
f. Analytical methods used? ____yes__no
g. Statistical procedures? ____yes__no

8. Does the facility treat waste that contains cadmium? ____yes__no

a. If no, do not fill out b&c

b. If yes, was the pH of the soil and waste mixture 6.5 or greater at the time of each waste application? ____yes__no

(1) If the pH was less than 6.5, did the waste contain cadmium concentrations of 2mg/Kg or less? ____yes__no

c. Is the annual application rate of cadmium less than 0.5 Kg/ha (Kilograms per hectare) for the following: tobacco, leafy vegetables, or root crops grown for human consumption ____yes__no

(1) For all other food chain crops, is the annual cadmium application rate less than 2.0 Kg/ha (Until 6/30/84) ____yes__no

265.278 9. Is an unsaturated zone monitoring plan kept at the facility? ____yes__no

3.

10. Does the plan include:

a.	Soil monitoring	____yes___no
b.	Soil pore water monitoring	____yes___no
c.	Sample depths below waste incorporation	____yes___no
d.	Number of samples to be taken	____yes___no
e.	Frequency and time of sampling	____yes___no
f.	Analysis of samples	____yes___no

265.279 11. Are records kept at the facility of

a.	Application dates	____yes___no
b.	Application rates	____yes___no
c.	Quantities	____yes___no
d.	Waste location	____yes___no

265.280 12. Is a copy of the closure/post-closure plan kept at the facility? ____yes___no (Effective May 19, 1981)

265.281 13. Are ignitable or reactive wastes placed in the facility? ____yes___no

a. If yes, are the wastes treated, rendered or mixed before or immediately after placement in the landfill so it is no longer reactive or ignitable?

____yes___no

b. Describe or attach a copy of treatment.

14. Are incompatible wastes placed in the facility? ____yes___no

a. Are the incompatible waste placed in different locations in the facility? ____yes___no

Subpart

N

LANDFILLS CHECKLIST

265.302

1. Is run-on diverted from the landfill? (Effective November 19, 1981) ____yes__no

2. Is run-off from the landfill collected? (Effective November 19, 1981) ____yes__no

   a. Is this waste analyzed to determine if it is a hazardous waste? ____yes__no

   (1) If it is a hazardous waste, how is it managed? (Use narrative explanations sheet)

   (2) Is the collected run-off discharged through a point source to surface waters? ____yes__no

      (a) If yes, list NPDES Permit Number_____

3. Is the landfill managed so that wind dispersal is controlled? (Note blowing debris) ____yes__no

4. Is the following information maintained in the operating record? ____yes__no

5. Are reactive or ignitable wastes placed in the landfill? ____yes__no

   a. If yes, is it treated, rendered or mixed before or immediately after placement in the landfill so it is no longer reactive or ignitable? ____yes__no

   b. Describe treatment, etc, or attach a copy of treatment.

6. Are incompatible wastes placed in the same landfill? ____yes__no

7. Are bulk or non-containerized liquid wastes or wastes containing free liquids placed in the landfill? (Effective November 19, 1981) ____yes__no

   a. If yes, does the landfill have
      (1) A chemically and physically resistant liner? ____yes__no
      (2) Functioning leachate collection and removal system? ____yes__no

      or

   b. 1. Is the liquid waste treated chemically or physically so that free liquids are no longer present? (Effective November 19, 1981) ____yes__no

265.314 8. Are containers holding liquid wastes placed in the landfill? ___yes___no

a. If yes, is the container designed to hold liquids for a use other than storage? (eg battery, capacitor) ___yes___no
(Effective November 19, 1981)

265.315 9. Are empty containers placed in the landfill? ___yes___no

a. If yes, are they reduced in volume (eg shredded, crushed)? ___yes___no
(Effective November 19, 1981)

10. Is there evidence of site instability? (e.g. erosion, settling)? ___yes___no
(Use narrative explanations sheet)

11. Is there evidence of ponding of water on-site? ___yes___no
(Use narrative explanation sheet)

12. Is there any indication of improper or inadequate drainage? ___yes___no
(Use narrative explanations sheet)

265.310 13. Does the facility maintain closure and post-closure plans? ___yes___no

Subpart

O

INCINERATORS CHECKLIST

265.343 1. Is the incinerator operating at steady state conditions (temperature and air flow) before adding hazardous waste? ____yes__no

265.345 2. Is a waste analysis documented on the operating record that includes:

a. Heating value ____yes__no
b. Halogen content ____yes__no
c. Sulfur content ____yes__no
d. Concentration of lead ____yes__no
e. Concentration of mercury ____yes__no

(Note: D&E not required if facility has written documented data that show the elements are not present.

265.347 3. Does the owner/operator monitor the following when incinerating hazardous waste?

a. At least every 15 minutes, existing instruments which relate to combustion and emission control including:

(1) Waste feed ____yes__no
(2) Auxiliary fuel feed ____yes__no
(3) Air flow ____yes__no
(4) Incinerator temperature ____yes__no
(5) Scrubber flow ____yes__no
(6) Scrubber pH ____yes__no
(7) Relevant level controls ____yes__no

b. Stack plume (emissions) at least hourly for:

(1) Color (normal) ____yes__no
(2) Opacity ____yes__no

c. Incinerator and associated equipment at least daily including:

(1) Pumps, valves, conveyors, pipes for leaks, spills, and fugitive emissions (Use narrative explanations sheet) ____yes__no
(2) Emergency shutdown controls ____yes__no
(3) System alarms ____yes__no

265.351 4. Is a closure plan maintained at the facility? (Effective May 19, 1981) ____yes__no

P

NOTE: Applies to thermal treatment of hazardous waste in devices other than incinerators.

265.373 1. Is the process a non-continuous (batch) process? ___yes___no

a. If no, is the process operating at steady state conditions (including temperature) before adding hazardous waste? ___yes___no

265.375 b. Is a waste analysis documented in the operating record that includes

1. Heating value ___yes___no
2. Halogen content ___yes___no
3. Sulfur content ___yes___no
4. Concentration of lead ___yes___no
5. Concentration of mercury ___yes___no

NOTE: 4&5 not required if facility has written documented data that show the elements are not present)

265.377 2. Does the owner/operator monitor the following when thermally treating hazardous wastes? ___yes___no

a. At least every 15 minutes, existing instruments which relate to temperature and emission control:

1. Waste feed ___yes___no
2. Auxiliary fuel feed ___yes___no
3. Treatment process temperature ___yes___no
4. Relevant process flow ___yes___no
5. Relevant level controls ___yes___no

b. Stack plume (emissions) at least hourly:

1. Color (normal) ___yes___no
2. Opacity ___yes___no

c. Thermal treatment process equipment at least daily

1. Pumps, valves, conveyors, pipes, etc - for leaks, spills and fugitive emissions? ___yes___no
2. Emergency shutdown controls? ___yes___no
3. System alarms ___yes___no

265.381 3. Is a closure plan maintained at the facility? (Effective May 19, 1981) ___yes___no

265.382 4. Is there evidence of any open burning of hazardous waste? (Use narrative explanations sheet) ___yes___no

5. Is open burning or detonation of waste explosives conducted? ___yes___no

a. If yes, is the detonation performed in accordance with the following table? ___yes___no

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0-100	204m(670 ft)
101-1,000	380m(1,250 ft)
1,001-10,000	530m(1,730 ft)
10,001-30,000	690m(2,260 ft)

Subpart Q

CHEMICAL, PHYSICAL & BIOLOGICAL TREATMENT CHECKLIST

NOTE: Applies to treatment in other than tanks, surface impoundments, and land treatment facilities.

265.401 1. Check treatment process and equipment:

a. Are there any leaks, corrosion or other failures evident? ___yes___no
If yes, describe._____

2. Is the process a continous feed system? ___yes___no

a. If yes, is it equipped with a means to stop waste inflow (e.g. waste feed cut-off system or by-pass)? ___yes___no

265.402 3. Is waste analysis information maintained in the operating record? ___yes___no

4. If a hazardous waste is received which is substantially different from any hazardous waste previously treated at the facility, are the following obtained? ___yes___no

a. Waste analyses and trial treatment tests (eg bench scale)? ___yes___no
b. Written documented information on similar treatment of similar waste? ___yes___no

265.403 5. Does the owner/operator inspect the following, where present? ___yes___no

a. At least daily.
1. Discharge control and safety equipment (eg waste feed cut-off, by-pass, drainage or pressure relief systems)? ___yes___no

2. Data gathered from monitoring equipment (eg pressure and temperature gauges)? ___yes___no

b. At least weekly.
1. Construction materials of treatment process or equipment to detect erosion or obvious signs of leakage? ___yes___no

6. Does the facility maintain a closure plan? (Effective May 19, 1981) ___yes___no

265.405 7. Are ignitable or reactive wastes placed in the treatment process? ___yes___no

a. If yes, is the waste treated, rendered or mixed before or immediately after being placed in the treatment process so it no longer meets the definition of ignitable or reactive? ___yes___no
Describe or attach a copy of the treatment.

IAD 005 280 180

EPA IDENTIFICATION NUMBER

RCRA INSPECTION REPORT - INTERIM STATUS STANDARDS

I. General Information:

(A) Facility Name: Litton - Clifton Precision Instruments & Life support Division

(B) Street: 2734 Hickory Grove Road

(C) City: Davenport (D) State: IA (E) Zip Code: 52804

(F) Phone: 319-383-6000 (G) County: _____

(H) Operator: SAME — Paul E Bohnsack - manager of Safety and Training

(I) Street: _____

(J) City: _____ (K) State: _____ (L) Zip Code: _____

(M) Phone: _____ (N) County: _____

(O) Owner: R. Edward Fisher - V.P. General Manager

(P) Street: _____

(Q) City: _____ (R) State: _____ (S) Zip Code: _____

(T) Phone: _____ (U) County: _____

(V) Type of Ownership: ____ Federal ____ Municipal X Private ____ State ____ County

(W) Date of Inspection: 7-13-83 (Q) Time of Inspection (From) 10:30 (To) 4:30

(X) Weather Conditions: Hot

(Z) Inspection Participants	Title	Telephone
Paul E Bohnsack	Manager Safety-Security & Environmental relations	314-383-6293
Dave Whitting	Dept W.A.W.M Rg 6	
Tom Robertson	PeDCU	816-337-8484

II. Description of Site Activity

(A) X Generator (Form 2)

(B) ____ Transporter (Form 3)

(C) ____ Chemical, Physical and Biological Treatment (Form 4)

(D) X Storage (Form 5)

(E) ____ Landfill (Form 6)

(F) ____ Incineration (Form 7)

(G) ____ Land Treatment (Form 4)

(H) ____ Thermal Treatment (Form 7)

(I) Comments: Aircraft Instrumentation

Supplemental forms (Listed in Parathesis) must be completed for each activity inspected. Attach all Supplemental forms to this report.

	Yes	No	Not Inspected	See Remark Number
(J) Has this facility Submitted a Part A Permit Application?	✓			

RCRA COMPLIANCE INSPECTION REPORT
GENERATORS CHECKLIST

Section A - EPA Identification No.

1. Does Generator have EPA I.D. No.? X Yes ___ No

   a. If yes, EPA I.D. No. IAD005268420

262.21 **Section B - Manifest**

1. Does generator ship waste off-site? X Yes ___ No

   a. If no, do not fill out Sections B and D.

   b. If yes, identify primary off-site facility(s) Use narrative explanations sheet.)

2. Does generator use Manifest? X Yes ___ No

261.5 a. If no, is generator a small quantity generator? ___ Yes ___ No NA
   1. If yes, does generator indicate this when sending waste to a T/S/D facility ___ Yes ___ No NA

   b. If yes, does manifest include the following information?

   1. Manifest Document No. X Yes ___ No
   2. Generators Name, Mailing Address, Telephone No. X Yes ___ No
   3. Generator EPA I.D. No. X Yes ___ No
   4. Transporter(s) Name and EPA I.D. No. X Yes ___ No
   5. a. Facility Name, Address and & EPA I.D. No. X Yes ___ No
      b. Alternate Facility Name, Address and EPA ID NO. ___ Yes X No
      c. Instructions to return to generator if undeliverable? ___ Yes X No
   6. Waste information required by DOT - Shipping name, quantity, (weight, or vol.) containers (type and number.) ___ Yes X No
   7. Emergency Information (optional) (special handling instructions, phone no.) X Yes ___ No

One manifest utilized the phrase waste paint thinner March 27, 1981

Previously cited in State report

modified by state of Illinoise and minnesota

(8) Is the following certification on each manifest form? ___ Yes _X_ No

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA.

(9) Does Generator retain copies of Manifests? _X_ Yes ___ No

If yes, complete a through e.

Tracking system is not formal. To date there has been no apparent need for exception reports

a. (1) Did generator sign and date all manifests? _X_ Yes ___ No
(2) Who signed for generator? Name _Varies_ Title ______

b. (1) Did generator obtain handwritten signature and date of acceptance from initial transporter? _X_ Yes ___ No
(2) Who signed and dated for transporter? Name _Varies_ Title ______

c. Does generator retain one copy of manifest signed by generator and transporter? _X_ Yes ___ No

d. Do returned copies of manifest include facility owner/operator signature and date of acceptance? _X_ Yes ___ No

e. Does generator retain copies for 3 years? _X_ Yes ___ No

Section C - Hazardous Waste Determination

262.12 1. Does generator generate solid waste(s) listed in Subpart D (List of Hazardous Waste)? _X_ Yes ___ No

See Part A

a. If yes, list wastes and quantities (include EPA Hazardous Waste No.) _7001, F003, F005, F007, 7008, 7009, 7010, 7011_

See photo's #'s 1 & 2

2. Does generator generate solid waste(s) that exhibit hazardous characteristics? (corrosovity, ignitability, reactivity, EP toxicity) ___ Yes _X_ No

a. If yes, list wastes and quantities (include EPA Hazardous Waste No.) _D001 wastes are in storage, not on Part A"_

b. Does generator determine characteristics by testing or by applying knowledge of processes? _Applying Knowledge_

1. If determined by testing, did generator use test methods in Part 261, Subpart C (or Equivalent)? ___ Yes ___ No NA

a. If equivalent test methods used, attach copy of equivalent methods used.

3. Are there any other solid wastes generated by generators? X Yes ___ No

   a. If yes, did generator test all wastes to determine non-hazardous characteristics? X Yes ___ No

see photo #3

   1. If no, list wastes and quantities deemed non-hazardous or processes from which non-hazardous waste was produced? (Use additional sheet if necessary.)

By Knowledge of Process and Materials / WASTE ACIDS in Storage not listed as hazardous comingled with non hazardous waste.

Section D - Pre-Transport Requirements

1. Does Generator package waste in accordance with 49 CFR 173 178, and 179? (DOT requirements) X Yes ___ No

265.174 2. a. Are containers to be shipped leaking or corroding? ___ Yes X No
   b. Use sheet to describe containers and condition.
   c. Is there evidence of heat generation from incompatible wastes in the containers? ___ Yes X No

262.32 3. Does the generator use DOT labeling requirements in accordance with 49 CFR 172? X Yes ___ No

4. Does the generator mark each package in accordance with 49 CFR 172? X Yes ___ No

5. Is each container of 110 gallons or less marked with the following label? X Yes ___ No

Label saying: HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest policy or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address _____

_____

Manifest Document Number _____ _____

→ 262.33 6. Does generator have placards to offer to transporters? ___ Yes X No

262.34 7. Accumulation Time

   a. Are containers used to temporarily store waste before transport? X Yes ___ No

FACILITY is using form included in part B Figure 7-2

1. If yes, is each container clearly dated? Also, fill out rest of No. 7 (Accum. Time) — X Yes ___ No

b. 1. Does generator inspect containers for leakage or corrosion? (265.174 - inspections) — ___ Yes X No
2. If yes, with what frequency? _____

c. Does generator locate containers holding ignitable or reactive waste at least 15 meters (50 feet) from the facility's property line? (265.176 - Special Requirements for Ignitable or Reactive wastes) — X Yes ___ No

NOTE: If tanks used, fill out checklist for tanks. NA

d. Are the containers labeled and marked in accordance with Section D 3, 4, & 5 of this form? — X Yes ___ No

NOTE: If generator accumulates waste on-site, fill out checklist for General Facilities, Section B - Preparedness and Prevention, Section C - Contingency Plan and Emergency Procedures

e. Does generator comply with requirements for personnel training? (Attach checklist for 265.16 - Personnel Training) — X Yes ___ No

8. Describe storage area. Use photos and narrative explanation sheet.

62.40 Section E - Recordkeeping and Records

1. Does gnerator keep the following reports for 3 years?

a. Manifests and signed copies from designated facilities? — X Yes ___ No
b. Annual reports — X Yes ___ No
c. Exception Reports None issued — ___ Yes ___ No NA
d. Test results — X Yes ___ No

2. Where are records kept (at facility or elsewhere)? at facility
3. Who is in charge of keeping the records? Name Fred Bowsack Title _____

Section F - Special Conditions

62.50 1. Has generator received from or transported to a foreign source any hazardous waste? — ___ Yes X No

a. If yes, has he filed a notice with the Regional Administrator? — ___ Yes ___ No NA
b. Is this waste manifested and signed by Foreign consignee? — ___ Yes ___ No NA
c. If generator transported wastes out of the country, has he received confirmation of delivered shipment? — ___ Yes ___ No NA

RCRA COMPLIANCE INSPECTION REPORT
FACILITIES CHECKLIST

Section A - General Facility Standards

262.12 1. Does facility have EPA Identification No.? X Yes ___ No

A. If yes, EPA I.D. No. IAD005268420
If no, explain _____

262.50 2. Has facility received hazardous waste from a foreign source? ___ Yes X No

A. If yes, has he filed a notice with the Reg. Admin. ___ Yes ___ No NA

265.13 Waste Analysis

3. Does facility maintain a copy of the waste analysis plan at the facility? X Yes ___ No

A. If yes, does it include

(1) Parameters for which each waste will be analyzed? X Yes ___ No

(2) Test methods used to test for these parameters? X Yes ___ No

(3) Sampling method used to obtain sample? X Yes ___ No

(4) Frequency with which the initial analysis will be reviewed or repeated? once every two years X Yes ___ No

(5) (for off-site facilities) Waste analyses that generators have agreed to supply? X Yes ___ No AA

(6) (for off-site facilities) Procedures which are used to inspect and analyze each movement of hazardous waste including: NA

a. Procedures to be used to determine the identity of each movement of waste? ___ Yes ___ No

b. Sampling method to be used to obtain representative sample of the waste to be identified? NA ___ Yes ___ No

265.14 4. Does the facility provide adequate security through

A. 24-hour surveillance system? (e.g. television monitoring or guards) X Yes ___ No

OR

B. (1) Artificial or natural barrier around facility (e.g. fence or fence and cliff)? X Yes ___ No
Describe
AND

(2) Means to control entry through entrances (e.g. attendant, television monitors, locked entrance, controlled roadway access)? X Yes ___ No
Describe

General Inspection Requirements

265.15 (b) 5. Does the owner/operator maintain a written schedule at the facility for inspecting:

a. Monitoring equipment? ___ Yes X No

b. Safety and emergency equipment? File of inspections - annually First Aide - by nurse records not at log file ___ Yes ✓ No

c. Security devices? Fences by guards — Pinkerton not part of log records ___ Yes ✓ No

d. Operating and structural equipment? ___ Yes ✓ No

e. Types of problems of equipment?

1. malfunction ___ Yes ✓ No

2. operator error ___ Yes ✓ No

3. discharges ___ Yes ✓ No

part B info not implemented - no inspection records

265.15 (d) 6. Does the owner/operator maintain an inspection log? ___ Yes X No

Part B not yet implemented. Plans call to have Plant engineer to see if implemented as indicated

A. If yes, does it include:

(1) Date and time of inspection? ___ Yes ___ No

(2) Name of inspector? ___ Yes ___ No

(3) Notation of observations? ___ Yes ___ No

(4) Date and nature of repairs or remedial action? ___ Yes ___ No

B. Are there any malfunctions or other deficiencies not corrected? (Use narrative explanation sheet). ___ Yes ___ No

65.16 Personnel Training

7. Does the owner/operator maintain Personnel Training Records at the facility? X Yes ___ No
How long are they kept? 3 Years minimum

A. If yes, do they include: there is only 1 person in each job classification

ANNUAL RAS not yet been scheduled Smoke School given 12/1/83

(1) Job title and written job description of each position? X Yes ___ No

records do not indicate content of specific session

(2) Description of type and amount of training? ___ Yes X No

(3) Records of training given to facility personnel? X Yes ___ No

265.17 Requirements for Ignitable, Reactive or Incompatible Waste

(a) 8. Does facility handle ignitable or reactive wastes? X Yes ___ No

A. If yes, is waste separated and confined from sources of ignition or reaction, (open flames, smoking, cutting and welding, hot surfaces, frictional heat) sparks (static, electrical or mechanical), spontaneous ignition (e.g. from heat producing chemical reactions) and radiant heat? ___ Yes X No

Electric switch

1. If yes, use narrative explanations sheet to describe separation and confinement procedures.
2. If no, use narrative explanation sheet to describe sources of ignition or reaction.

emergency coordinator not listed in training

Obs. → Alternate are not thoroughly familiar with records and all aspects of facility operation

B. Are smoking and open flame confined to specifically designated locations? X Yes ~~X~~ No

C. Are "No Smoking" signs posted in hazardous areas? X Yes ___ No

9. Check containers

A. Are containers leaking or corroding? ___ Yes X No

B. Is there evidence of heat generation from incompatible wastes? ___ Yes X No
(Use narrative explanations sheet to describe condition of containers.)

265.31 Section B - Preparedness and Prevention

1. Is there evidence of fire, explosion or contamination of the environment? ___ Yes ___ No

If yes, use narrative explanations sheet to explain.

265.32 2. Is the facility equipped with

A. Internal communication or alarm system? X Yes ___ No

(1) Is it easily accessible in case of emergency? X Yes ___ No

B. Telephone or two-way radio to call emergency response personnel? X Yes ___ No

C. Portable fire extinguishers, fire control equipment spill control equipment and decontamination equipment? X Yes ___ No

265.33 (1) Is this equipment tested to assure its proper operation? X Yes ___ No

D. Water of adequate volume for hoses, sprinklers or water spray system? X Yes ___ No

(1) Describe source of water DAVENPORT

265.35 3. Is there sufficient aisle space to allow unobstructed movement of personnel and equipment? X Yes ___ No

---

265.37 4. Has the owner/operator made arrangements with the local authorities to familiarize them with characteristics of the facility? (layout of facility, properties of hazardous waste handled and associated hazards, places where facility personnel would normally be working, entrances to roads inside facility, possible evacuation routes.) X Yes ___ No

---

65.50 5. In the case that more than one police and fire department might respond, is there a designated primary authority? X Yes ___ No
a. If yes, list primary authority _____

65.52 (a) 6. Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors and equipment suppliers? X Yes ___ No
Are they readily available to all personnel? X Yes ___ No

(c) 7. Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility? X Yes ___ No

---

8. If State or local authorities decline to enter, is this entered in the operating record? ___ Yes X No

---

65.52 Section C - Contingency Plan and Emergency Procedures

1. Is a contingency plan maintained at the facility? X Yes ___ No

---

a. If yes, is it a revised SPCC Plan? ___ Yes X No

→ 2. Is there an emergency coordinator on site at all times? ___ Yes X No
on call but not formally

Section D - Manifest System, Recordkeeping and Reporting

65.71 1. Does facility receive waste from off-site? ___ Yes X No

---

a. If yes, does the owner/operator retain copies of all manifests? X Yes ___ No

Paul Bohnsack

(1) Are the manifests signed and dated and returned to the generator? X Yes ___ No

(2) Is a signed copy given to the transporter? X Yes ___ No

2. Does the facility receive any waste from a rail or water (bulk shipment) transporter? ___ Yes X No

a. If yes, is it accompanied by a shipping paper? ___ Yes ___ No NA

(1) Does the owner/operator sign and date the shipping paper and return a copy to the generator? ___ Yes ___ No NA

(2) Is a signed copy given to the transporter? ___ Yes ___ No NA

3. Has the owner/operator received any shipments of waste which were inconsistent with the manifest? (manifest discrepancies) 265.72 ___ Yes X No NO

a. If yes, has he attempted to reconcile the discrepancy with the generator and transporter? ___ Yes ___ No NA
1. If no, has Regional Administrator been notified? ___ Yes ___ No

4. Does the owner/operator keep a written operating record at the facility? 265.73 X Yes ___ No

A. If yes, does it include:

(1) Description and quantity of each hazardous waste received? X Yes ___ No

(2) Location and quantity of each hazardous waste at each location? X Yes ___ No

(3) Records and results of waste analyses? X Yes ___ No

(4) Reports of incidents involving implementing of the contingency plan? Never Done ___ Yes ___ No NA

(5) Records and results of required inspections? ___ Yes X No

(6) Monitoring, testing or analytical data? X Yes ___ No

(7) Closure cost estimates and for disposal facilities post-closure cost estimates? (Not effective until May 19, 1981.) FINANCIAL ASSURANCE COVERAGE GUARANTEE - 2-22-83 TRANSMITTAL TO EPA X Yes ___ No

5. Has the facility received any waste (that does not come under the small generater exclusion) not accompanied by a manifest? ___ Yes X No

a. If yes, has he submitted an unmanifested waste report to the Regional Administrator? ___ Yes X No

FACILITY _____

DATE _____

EPA ID NO. _____

RCRA COMPLIANCE INSPECTION REPORT
NARRATIVE EXPLANATIONS

SECTION B PART 1

Concrete shows evidence of stains, spangling & cracks, oily dirt on site now. See photo's #'s 4 & 5

SECTION _____ PART _____

SECTION _____ PART _____

FACILITY _____

DATE _____

EPA ID NO. _____

RCRA COMPLIANCE INSPECTION REPORT
NARRATIVE EXPLANATIONS

SECTION _____ PART _____

SECTION _____ PART _____

SECTION _____ PART _____

SITE PLAN

1 Drum cyanide waste 7007 dated 2-4-83
5 Drum in overpacks " " " 6-28-83
2 Drum 7001 " " " 7-6-83
1 Drum 7005 " " " 6-28-83

} Photo #6

12 Drums labeled D002 Corrosive not on Part A
~~13~~ it would appear that they were originally labeled 7007

} Photo #'s 1 & 2

3 Carboys labeled as waste acids - Electro polish solutions Photo #3

→ 1 D005 — Barium not on Part A 5-17-83
→ 1 F010 — 8-3-82 overpack

HAZARDOUS WASTE

PERSONNEL TRAINING

CLIFTON PRECISION
Instruments & Life Support Division

1 AUG 82 PEB

Litton

PREFACE

Hazardous Waste Management facilities are required to train those persons who, as a part of their regular duties, are intimately involved with the daily handling and movement of the identified wastes. Since the number in this group is extremely small, we feel it is to our mutual advantage to provide a broad training program to others throughout the facility. This will include the background information and reasoning for the HWM Plan. It is hoped this will foster cooperation by those who are peripherally involved so that waste quantities can be reduced, new inventory and waste hauling costs can be reduced and the importance of waste segregation is realized.

All of these personnel will receive the information contained in Sections 1 through 3. Those who need more intensive training will additionally be provided the information contained in Section 4. Appropriate training records will be maintained for both groups. Retraining will be conducted annually for those initmately involved in the plan compliance.

If you have any questions regarding Hazardous Waste Management at this facility, contact your supervisor or the undersigned.

Paul E. Bohnsack

Litton

HAZARDOUS WASTE TRAINING MANUAL CONTENT

1.0 Introduction

- 1.1 The Resource Conservation and Recovery Act - RCRA
- 1.2 Chemical Hazards

2.0 Facility and Process Description

- 2.1 Description of Wastes to be Managed
- 2.2 Description of Storage Facility
- 2.3 Key Terms of the Permit
- 2.4 Normal/routine Operations
- 2.5 Waste Analysis
- 2.6 Recordkeeping and Reporting Requirements
- 2.7 Security
- 2.8 Inspections

3.0 Emergency Procedures and Contingency Plans

- 3.1 Emergency Coordinator
- 3.2 Emergency Procedures
- 3.3 Emergency Communications/Phone Numbers and Alarms
- 3.4 Location, Maintenance, Inspections, and Use of Emergency Equipment
- 3.5 Spill Control and Response to Groundwater Contamination Incidents
- 3.6 Fires and explosions
- 3.7 Power Interruption or Failure
- 3.8 Severe Weather

4.0 Detailed Instruction

- 4.1 Hazardous Waste Characteristics
- 4.2 Hazardous Wastes
- 4.3 Safety
- 4.4 Emergencies
- 4.5 Inspection
- 4.6 Identification and Inventory Control

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HAZARDOUS WASTE TRAINING

1.0 Introduction

1.1 Resource Conservation and Recovery Act

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA). The stated objectives of RCRA are to promote the protection of human health and the environment and to conserve valuable material and energy resources. Subtitle C of RCRA specifially concerns the management of hazardous waste.

The following elements are the key to the Federal hazardous waste management regulatory program under RCRA:

- definition of hazardous waste
- a manifest system to track hazardous waste from its generation to its final disposal
- standards for generators and transporters of hazardous waste
- permit requirements for facilities that treat, store, or dispose of hazardous waste
- requirements for state hazardous waste programs

On May 19, 1980, regulations promulgated under RCRA (over 500 pages) required, among other things, that owners or operators of hazardous waste management facilities train selected personnel. This is the reason we ask you to be certain you sign the attendance sheet. We must have these on file for review by the EPA or Iowa DEQ.

1.2 Chemical Hazards

An assessment of the hazardous wastes generated in recognizable quantities in this plant indicates that three classes of problems could exist: ignitability, or materials which have a flash point below 140°F, as with alcohol; toxicity, or materials which could have a deleterious effect if taken into the body in sufficient amounts, for example, chromic acid, and reactivity, or materials which have a potential for reacting with other materials, such as acids or caustics.

2.0 Facility and Process Description

2.1 Description of wastes to be managed

The description column in Figure 1 lists the materials which are considered as hazardous wastes, and which may be encountered in our operation. Also noted are some other data, as to EPA numbers, codes, etc. which we should discuss.

2.2 Description of Storage Facilities

The regulations are rather explicit for plants which store hazardous wastes for over 90 days. We are such a plant, therefore, a new building will be erected along the west end of the main plant for the storage of our hazardous wastes.

This can be a complicated subject, but the rate of accumulation at our plant does not warrant such systems as storage tanks, piping, pumps, waste piles, treatment facilities, etc. All wastes which we generate can be conveniently stored in suitable 55 gallon drums.

The drawings in Figure 2 and Figure 3 show the concept of the proposed Hazardous Waste Storage Building.

2.3 Key Terms of the Permit

A Hazardous Waste Permit Application must cover the following:

..Facilities Description
..Waste Characteristics
..Process Description (Waste container management, etc.)
..Procedures to Prevent Hazards (Precautionary Procedures)
..Contingency Plan (What to do if an Emergency Develops)
..Training Plan
..Closure Plan (Plans for future Complete Abandonment of Site)

All manufacturers who generate and store over 2,200 pounds (approximately 5 drums) per month of materials defined as hazardous wastes are now required to apply for a special EPA permit. An iterim permit application was required by November, 1980, and an application for a final permit was to be "on request".

We complied with the first part two years ago, and have now been notified our final permit application is due by October, 1982.

The implications of qualifying or operating to this requlation are very involved. The final permit application outline alone is over 8 pages long and includes scores of references to State and Federal Regulations.

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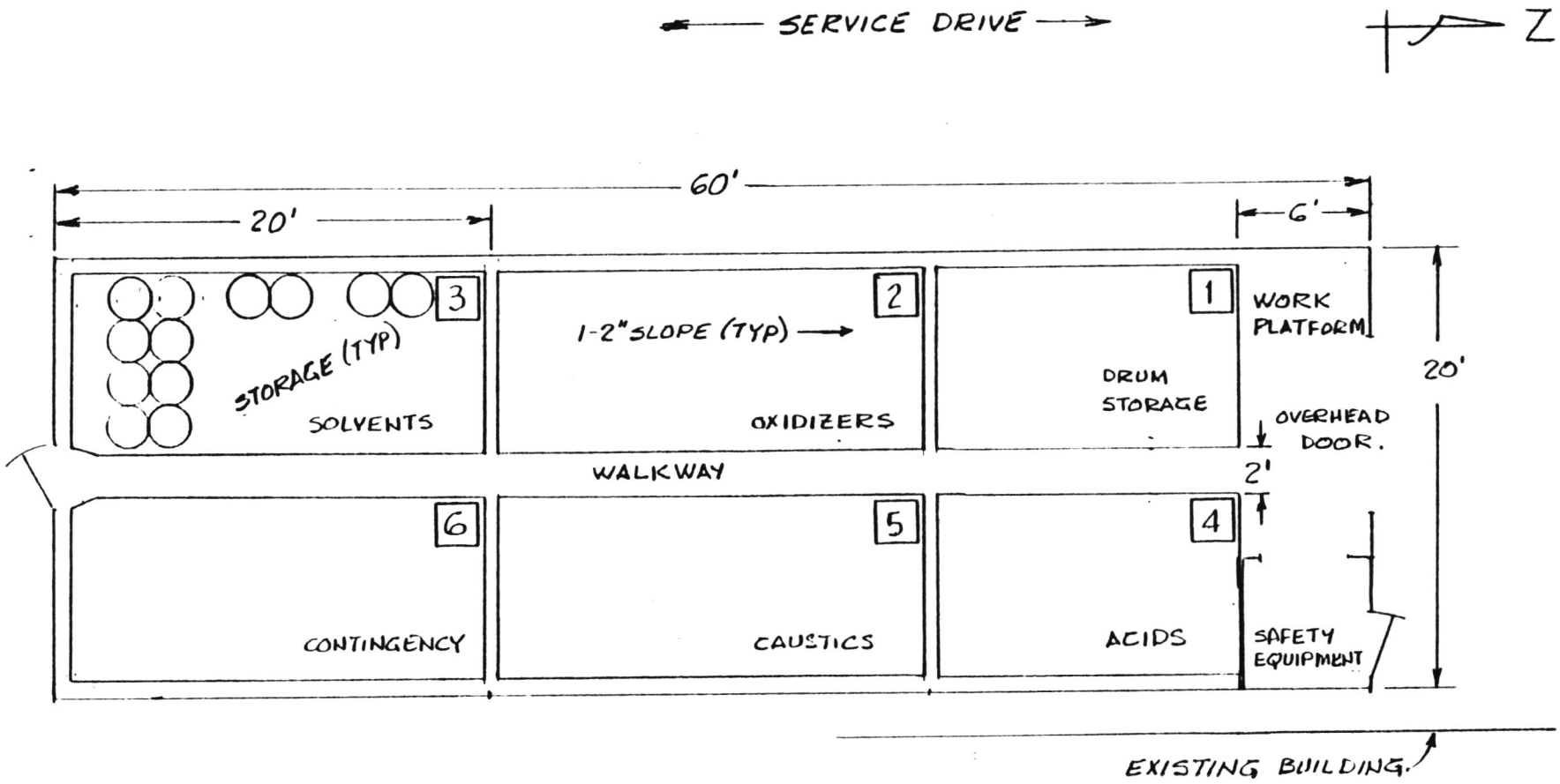
GENERIC CATEGORY	EPA HW NO.	HAZARD CODE		DESCRIPTION	WHERE USED
Chlorinated Solvents	F001	T		1,1,1-Trichloroethane Trichloroethylene	Vapor degreasers in Tumbling, parts wash, plating
Thinners	F003	I		Acetone Xylene Butyl Alcohol Cyclohexane	Various areas in fabrication and assembly
	F005	I,T		Methanol Ethyl Alcohol Denatured Alcohol Isopropyl Alcohol MEK Toluene Hexane Paint & lacquer Thinners	Various areas in fabrication and assembly
Spent Plating Baths	F007	R,T	*	Chromic Acid Cadmium cyanide Copper cyanide Silver cyanide Tin Chromate baths	Plating
Plating Sludges	F008	R,T	*	Any of F007	Plating
Spent Acids	F009	R,T	*		Plating
Heat Treat Oil Sludges	F010	R,T			Heat Treating
Heat Treat Salts	F011	R,T		Nitrate & Nitrites	Heat Treating

*Even though these are in the same "F" category, they are not to be mixed except at the direction of the senior chemist.

Note - DO NOT INTERMIX "F" CATEGORY WASTES.

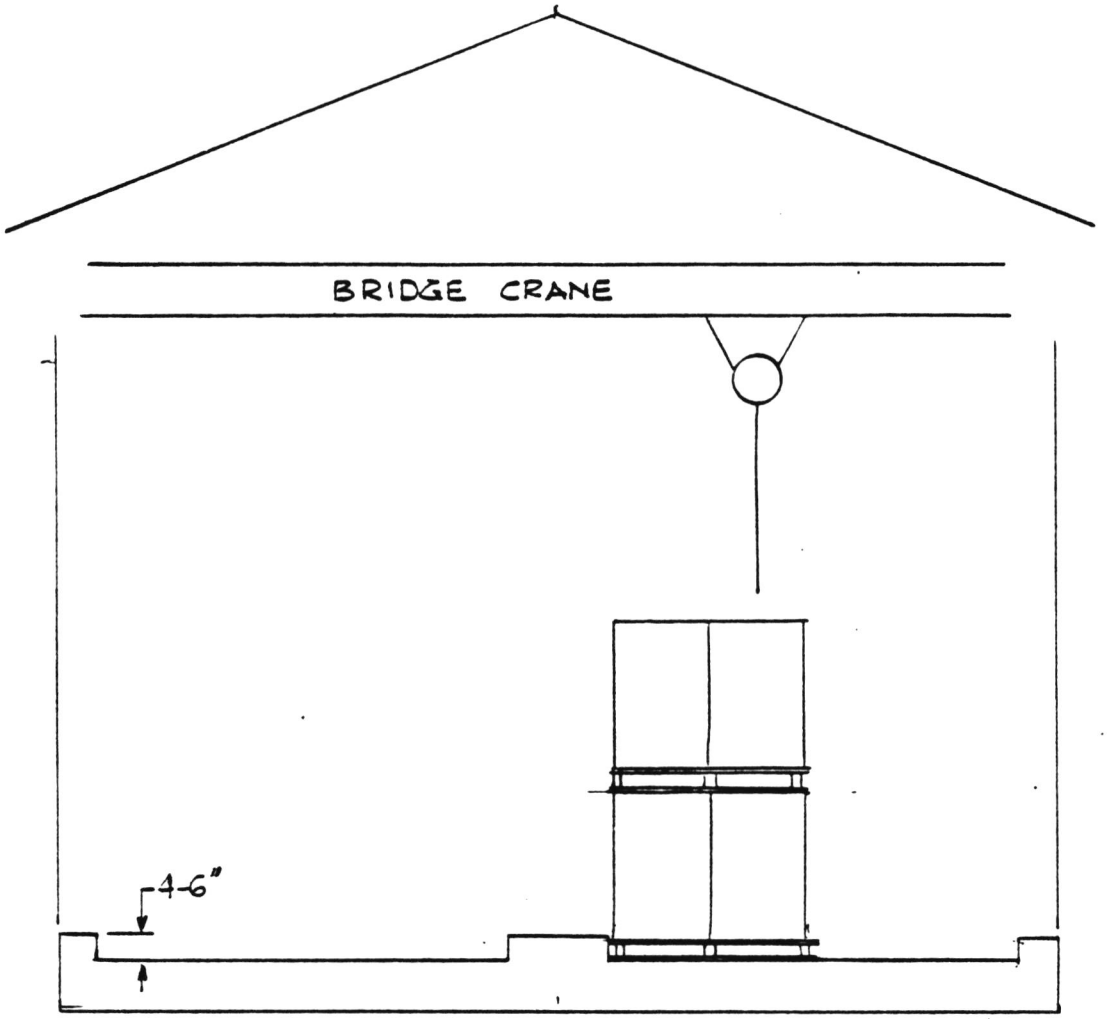
FIGURE 1



PLAN VIEW
STORAGE BUILDING

SCALE: 1" = 8'

FIGURE 2



TYPICAL END VIEW ELEVATION

SCALE: 1" = 4'

FIGURE 3

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HAZARDOUS WASTE TRAINING

We would like you to see an audio-visual program prepared by the Industrial Training Systems Company. It broadly covers the generation, storing, transporting, treating and disposing of materials defined as hazardous wastes under the regulations. We think it worthwhile to show this to all of you on a one time basis so you can see how the system is suppose to work. The subject will be reviewed at intervals for those who are intimately involved.

We hope you all will get an appreciation of the importance of waste segregation; otherwise, the people in shipping, who manifest the material, might declare a barrel to be all triclene (to the best of their knowledge) while actually it is ½ gasoline. Such confusion would continue on down the line and in fact could cause us serious disposal problems.

As you might envision, misuse of materials can only drive costs up and make the division less competitive. Consider a barrel of solvent. Not only has the price increased dramatically over the years, but the purchaser must now assume 2 or 3 times the initial cost to provide for the ultimate disposal. Society is getting complicated. No longer can we hire just any truck driver to haul waste to whatever dump he sees fit. Also, consider waste. The more you use, the more you must dispose of. And also, do not forget that severe penalties can be imposed on the company if they do not comply.

Do not be overly alarmed by this. We all tend to resist anything that requires a change. Once we get use to strict compliance, it will become more and more routine. The company has spent considerable time, effort and money in preparation for HWM, and probably most of you are already doing what is required. We specifically need the cooperation of all of you in this room.

...DO NOT USE ANY CONTAINER THAT LEAKS.

...DO NOT SEND UNMARKED CONTAINERS FOR REFILLING.

...DO NOT FILL UNMARKED CONTAINERS.

...DO NOT USE A "WORK" PAN UNLESS IT IS CLEARLY MARKED.

...DO NOT PLACE "USED" CHEMICALS INTO UNMARKED CONTAINERS.

...DO BE CERTAIN THAT "USED" CHEMICALS ARE PLACED IN THE PROPER WASTE CONTAINERS.

If you need labels or clarification, contact your supervisor.

Frankly, industry will probably never be 100% successful in the waste segregation effort. We would hope that we can be 99% correct and not 50%.

And now, the slide presentation.

Now that we have painted a horrible picture, let us say that most individuals need to understand and follow only a few simple requirements. We thought it worthwhile, however, to show all of you this slide program so that you will understand what we are trying to comply with.

2.4 Normal/Routine Operations

The slide program should have given you some grasp of the routine of the whole program. The routine in our shop will go something like this. Wastes in the solvent category will be placed in small containers by the generating departments. The small containers will be collected daily by the oiler and the contents transferred to a drum in the drum filling area. Before starting each 55 gallon drum, the Oiler must obtain a Hazardous Waste Label from the Maintenance Foreman, or the Plant Engineer. The label will be filled out completly except for the manifest number before it is supplied to the Oiler. Labels will be numbered sequentially. At the same time the Plant Engineering Department fills in the label, they will enter the information on the Hazardous Waste Log. The Oiler will affix the label to a fresh drum, and proceed with filling. When the drum is filled, he will notify the Plant Engineer's office that drum "XYZ" is filled (so that the log entry can be completed) and then move the closed drum to the Hazardous Waste Storage Building. At the time the drum later comes out of storage and is given to the transporter, the Shipping Department will assign and affix the manifest number plus any required shipping labels not already affixed.

Many wastes, other than flammable solvents, will be handled in much the same manner, except that they will not be accumulated in small containers nor go to the filling area. Normally these will occur at intervals and in larger batches. Another member of Maintenance may be assigned to help clean out a vapor degreaser or a discarded plating bath for instance. In such cases, the properly filled in Hazardous Waste labels must be affixed to the barrels on the site where they are filled and the log maintained accordingly. Again, these functions will be the primary responsibility of the Plant Engineering Department. In these cases, the labeled and closed drums will be moved directly to the storage area.

2.5 Waste Analysis

The regulations are rather explicit on this subject. The Company must have a typical analysis established for each type of waste at the first time it occurs and each time there is reason to expect a change. Most analysis require special equipment, accuracy to parts per million and cost hundreds of dollars -- a good reason to both conserve and to "do things by the book".

2.6 Record Keeping and Reporting

Hazardous Waste Log sheets go to the Safety and Security Office when filled, where they must be available to both State and Federal Administrators. In addition, the Supervisor of Safety and Security must submit an annual report plus an accident report, should one occur, and the Shipping Department must keep a manifest file, with tracers as applicable.

2.7 Security

The Company is required to maintain a complete file concerning fences, doors, guards, locks, inspections, etc. It is most important that the individual worker help us keep our record clean by helping to keep the Hazardous Waste area secure and to report any breaches of security or safety to his/her supervisor. The HWS area and filling area always should be locked when not attended.

2.8 Inspections

A complete inspection schedule and set of inspection log sheets has been submitted as we see our operations fitting the federal regulations. Inspections will be made weekly and monthly by the Plant Engineering Department and/or the Safety and Security Department. Reports must be kept on file in the Safety and Security Office.

3.0 Emergency Procedures and Contingency Plan

3.1 Emergency Coordinator

The Manager of Safety and Security is the Emergency Coordinator. He is responsible for planning for emergencies of all types and magnitudes and for presenting procedures and techniques to an Emergency Advisory Committee composed primarily of himself, the Director of Employee Relations, the Plant Engineer, the Engineering Manager of Support Engineering and the Manufacturing Manager of Assembly and Fabrication.

3.2 Emergency Procedures

This entire topic is covered in the Divisional Safety and Health Plan, under Policy E-2. Topics covered include electrical, gas and water failure, fire, explosion, floods, tornados, and release of hazardous wastes. The most likely danger with Hazardous Wastes in this plant is probably fire.

3.3 Emergency Communications/Phone Numbers and Alarms

In the Safety and Health Manual are listed the phone numbers of the Fire Department, Police, Ambulance, Hospitals, and a dozen others. Internally, special calls, listed on the cover of the Company Telephone Directory are:

...Fire - 370

...First Aid - 272

...Emergency First Aid - 345

...Guard House - 273

...Emergency Maintenance - 260

...Public Address - 8800

Certain lines are on independent power. There is an annunciator in the guard house to monitor the automatic sprinkler system, which covers the plant. As some of you know, we also have a Halon system in the computer room and some CO_2 systems in special areas.

3.4 Location, Maintenance, Inspections, and use of Emergency Equipment

There are 5 stretcher stations located along the main corridors and 5 emergency shower-eye stations located in plating, the oil house, the tumbling department and the Met Chem Lab. These are on a HW Inspection schedule as are the 200 fire extinguishers located strategically throughout the plant. In addition, these get a yearly inspection/servicing by an outside contractor.

3.5 Spill Control and Response to Ground Water Contamination Incidents

Liquid spills or leaks will be picked up by "Hazorb" or equivalent universal absorbent pillows. The "Hazorb" pillows will be stored in a closet in the north end of the HWS building. There will be an outside door, facing the guardhouse. These will be handled as per the material involved and placed in fresh containers. In the unlikely event of ground water/soil contamination, the advisory committee will decide on the best method of clean-up. The Manager of Safety and Health must report this event to the DEQ as an accident, should such occur.

3.6 Fires and Explosions

The Davenport Fire Department has agreed to be responsible for coordinating any community emergency groups which may be called in. Report such events to the Guardhouse, which will trigger appropriate decisions, then render such assistance as you can or as you are requested.

3.7 Power Interruptions or Failure

Generally speaking, the individual foremen will be responsible for disconnecting power circuits within their department to minimize switch gear damage on restarting. Main electrical disconnects are located outside, behind maintenance, for the west end of the plant, and on the mezzanine by Assembly for the east end of the plant and for engineering. Emergency lighting is automatic.

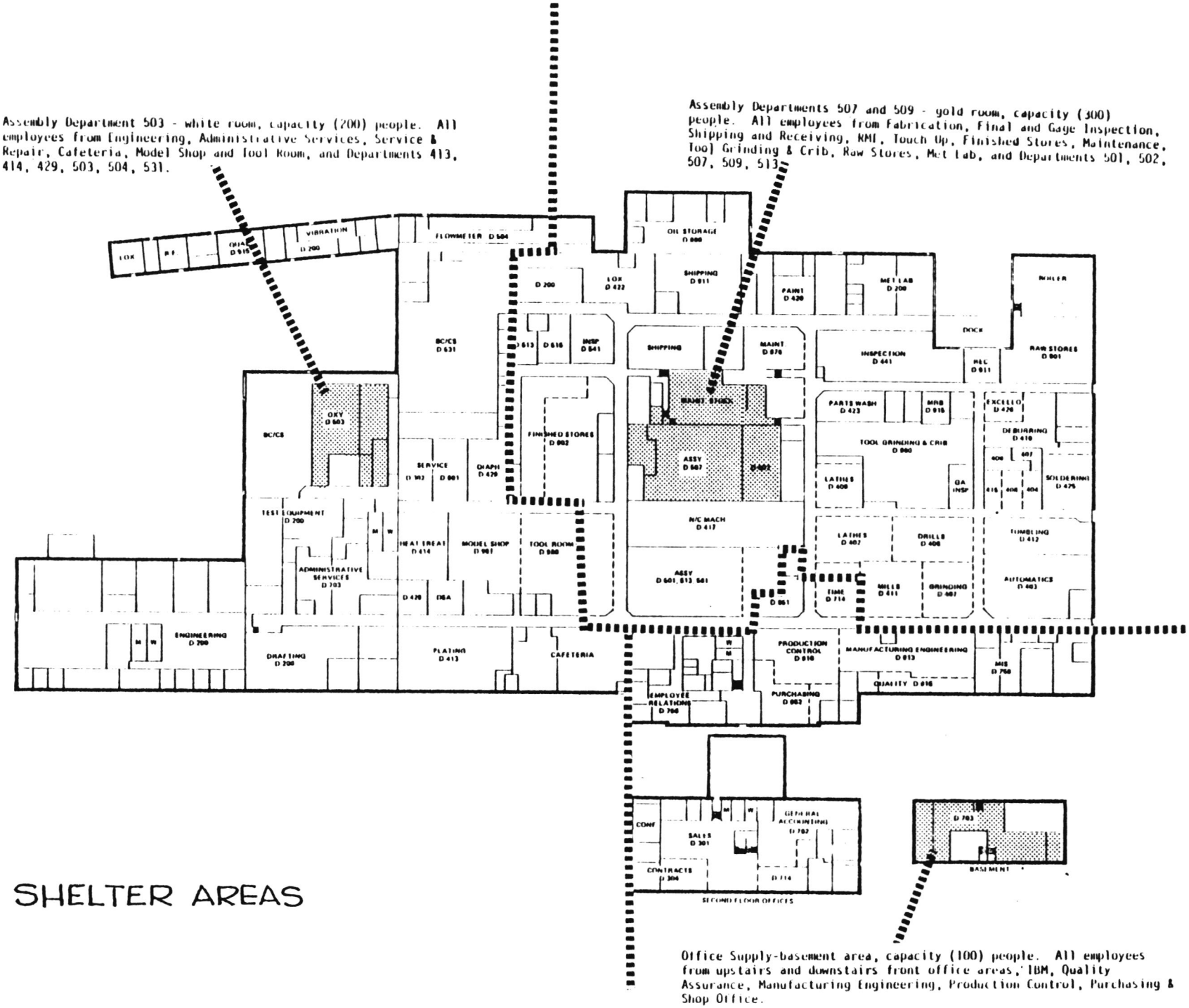
3.8 Severe Weather

The primary thing to remember is the appropriate shelter area as shown in Figure 4.

You will be notified by loudspeaker. Shut off individual machines and equipment and proceed in an orderly manner to your designated area.

Assembly Department 503 - white room, capacity (200) people. All employees from Engineering, Administrative Services, Service & Repair, Cafeteria, Model Shop and Tool Room, and Departments 413, 414, 429, 503, 504, 531.

Assembly Departments 507 and 509 - gold room, capacity (300) people. All employees from Fabrication, Final and Gage Inspection, Shipping and Receiving, RMI, Touch Up, Finished Stores, Maintenance, Tool Grinding & Crib, Raw Stores, Met Lab, and Departments 501, 502, 507, 509, 513.



Office Supply-basement area, capacity (100) people. All employees from upstairs and downstairs front office areas, IBM, Quality Assurance, Manufacturing Engineering, Production Control, Purchasing & Shop Office.

SHELTER AREAS

FIGURE 4

4.0 Detailed Instruction

4.1 Hazardous Waste Characteristics

At the mention of hazardous wastes, one might think of things like contagious disease germs or pathogens, or radioactive substances, or molten slag from a blast furnace, etc. While such things may be dangerous, they are not necessarily hazardous wastes in the present context. In dealing with RCRA, we are governed by Title 40, subpart C of the Code of Federal Regulations, which defines hazardous wastes as wastes with a certain degree of ignitability, corrosivity, reactivity or toxicity. Some waste materials could meet two or more of these definitions. We will discuss the four characteristics separately.

Ignitibility

A material which is prone to burn will have a "flash point". In testing, a sample is slowly heated up, with a flame periodically played near the surface. The temperature when the first flash occurs is the flash point. As the temperature is increased, a point will be reached where flame is sustained. This is the fire point. At some particular temperature, the material would catch fire without a flame to kindle it. This is the auto-ignition point. An example would be a unlighted match placed in an oven. A match stick without any head would have a still higher fire point. At any rate, a 140^{o} flash point is the magic number in the present instance. A waste with a flash point of 140^{o} or lower is, by definition, an ignitable hazardous waste. We have always tried to use the safest materials that would do the job at this division, but there are limits to everything. Keeping open flames away is particularly important with ignitables.

Corrosivity

The measure of whether a substance is an acid or a caustic is its "pH", which ranges from 0 to 14. Water has a pH of 7. A strong acid has a pH of 1, and a strong caustic has a pH of 13. Either extreme will "eat" certain materials. By definition, a waste is corrosive if it has a pH less than 2 or greater than 12.5, or if it will corrode mild steel beyond a specified rate at a specified temperature. Corrosives must be stored in plastic lined drums.

Reactivity

There are several criteria. Anything that is chemically unstable, that reacts violently with water, or that can be "detonated" (as with dynamite) qualifies. Our heat treat salt contains nitrate, which is one of the components of an explosive and is classed as a reactive. Generally speaking, keep reactives dry and separate from other materials.

Toxicity

This is the measure of what effect a particular substance has on animals. Any one of about 100 compounds or metals found to be present above specified limits that are known to effect laboratory animals is rated as toxic. This includes most of our plating wastes. The thing to do around toxic chemicals is to minimize exposure to the body. This is why we have "no smoking, no eating and no drinking" rules in the plating department and the soldering areas. Wash the hands well after leaving and report any symptons to First Aid.

4.2 Hazardous Wastes

The regulations mention many types of waste which are not considered hazardous, such as household refuse, garbage, trash, sewage, ashes, slag, waste water, etc. Some types listed as hazardous are things we are not involved with, such as the "U" materials (intermediates) and the "P" materials (off spec chemical products).

It has been determined that we do generate recognizable quantities of several wastes classified as "F" materials.

--F001 Wastes (Coded T for toxic) consist of vapor degreaser solvents. These can be mixed together.

--F003 Wastes (Coded I for ignitable) consist of several other solvents. We use these materials very little, but provided for them so that they can be used when needed. These can all be mixed together.

--F005 Wastes (Codes I for ignitable and T for toxic) consist of most of our flammable solvents, and is our most general class of hazardous wastes. These can be all mixed together.

--F007 Wastes (Codes R for reactive and T for toxic) consist of spent plating baths. These can not be mixed.

--F008 Wastes, though all in the same EPA group, should not be mixed indiscriminately. Fortunatly these wastes usually occur only when a spent plating bath must be discarded, and it is not that inconvenient to package them separately. These wastes consist of the sludge equivalents of F007. In other words, the liquid portion of a discarded bath should be poured into a barrel with bung, and given a F007 number. The sludge material may be placed in an open ended drum and numbered F008.

--F009 Wastes consists of spent pickling and stripping baths from plating, and are most often acids. However a few are caustics. Spent acids and caustics should not be mixed. Again, package separately. The plating tank materials will provide a clue as to the type of drum to use. In general, never place acids in unlined drums.

--F010 consists of heat treat oil sludges.

--F017 did consist of paint residues. Liquid portions should be discarded with paint thinners, under F005. In the recent past, this dried material was not considered hazardous and could be discarded with the trash.

Just a couple other comments. The small amount of continous drag-out and rinse over-flow from each plating bath goes to the sewer, and does not have to be packaged and disposed of as a hazardous waste. However, the Davenport Waste Water Treatment Plant (operating under the EPA) sends people around to sample our outlfow several times a month. It is in our interest to keep plating drag-out down, and drain-back as much as possible. Not only does this avoid penalties, but reduces the amount of chemicals which must be added to the plating baths.

Also, the coding of hazardous wastes was done by the EPA, and is a relative thing. Just because something bears a "toxic" or "ignitable" code, doesn't necessarily mean that it is as dangerous as gunpowder. We have always tried to use the least dangerous materials which would do the job. But do treat all these materials with respect.

4.3 Safety

Rubber aprons, plastic gloves and face shields are available for operator protection. In many instances, common sense will indicate when these should be worn, by both production and maintenance personnel. Concerning hazardous wastes, this protective equipment will be required when cleaning out a tank or container (until the waste has been removed) and wherever there is any danger of splashing the material on the face, or any part of the body. Flush the body area with clean water if accidentally exposed. Consult First Aid if any irritation or other symptoms persist.

Strictly avoid ingestion of the cyanide solution, or the exposure of any open sores. Consult First Aid immediately should these things happen. Food and drink are forbidden in the plating department.

Avoid the breathing of fumes (particularly of vapor degreaser solvents) by the use of exhaust fans, or adequate ventilation.

4.4 Emergencies

Spillage and container leakage are the most common unplanned events, since all these hazardous wastes are stored manually in drums at this Division, and we do not depend on any automatic pumps, pipes, tanks, or waste piles. "Hazorb" or equivalent universal sorbent "pillows" will be provided, and can be used with all of the liquids involved. These pillows are porous polyolefin envelopes filled with amorphous silica and a one pound pillow will absorb up to two gallons of liquid in 30 seconds. Wear protective clothing when cleaning up. The saturated "pillows" are to be placed in open top drums and re-identified. Use plastic liners for F009 chemicals, or any plating chemicals.

The F003 and F005 solvents are all flammable and explosive. The dry powder fire extinguishers can be used with both classes. Alert supervision immediately in the event of any fire, and report any injuries to First Aid. Do not expose to flames, sparks, welding, cutting or similar situations.

All of the above refuse is still hazardous waste and must be dealt with accordingly. An alternate treatment for acids or caustics (F009) which renders them inactive and harmless is to spread sodium bicarbonate on an acid, or citric acid on a caustic until the foaming activity ceases. The material may then be disposed of as trash, but this must be explained in records after the emergency is past.

4.5 Inspections

Periodic inspection of Safety and Emergency Equipment, Security Devices, and the Container filling and Storage Areas are a vital and important part of our HWM Plan. The inspection logs, as well as other logs in the Plan, must be available for review and inspection by the EPA or Iowa DEQ. The items which need to be inspected are detailed in Figures 5 and 6. It is important that you request your supervisor take action on any of these items which are defective.

4.6 Identification and Inventory Control

It is mandatory that all Hazardous Waste storage containers be properly identified. Figure 7 shows the label which we will use. The only item which will not be completed is the "Manifest Document No.____." This will be filled in by Shipping at the time the container is shipped from the facility. Note that (1) each container will have a distinctive identification number, and (2) the material terminology used in the plant is in the left margin of the label. If you notice any discrepancy, notify your supervisor.

Figure 8 is the Hazardous Waste Log which we must maintain for inventory control purposes. Any input you have should be exact and precise.

INSPECTION SCHEDULE

Area/Equipment	Specific Item	Types of Problems	Frequency of Inspection
Safety and emergency equipment			
	Universal absorbents and neutralizers	Out of stock	Monthly
	Drums (steel)	Out of stock	Monthly
	Emergency shower	Water pressure, leaking, drainage	Monthly
	Face shields and extra protective eyeglasses	Broken or dirty equipment	Monthly
	Chemical cartridge respirators for organic vapors and acid gases	Out of stock supplies	Monthly
	Self-contained breathing apparatus (SCBA)	Air quantity in reserve, air delivery system, moisture in tank (cold weather)	Monthly
	Fire extinguishers	Needs recharging	Monthly
	Fire alarm system	Power failure	Monthly
	Telephone system	Power failure	Monthly
	Public address (PA) system	Power failure, speakers	Monthly
	Generators	Operational	Monthly
	Emergency lighting system	Battery failure, lights	Monthly
	First aid equipment and supplies	Items out of stock or inoperative	Monthly
	Protective clothing-coveralls	Holes, normal wear and tear	Monthly
Security devices			
	Facility fence	Corrosion, damage to chain-link fence or barbed wire	Monthly
	Main gate and lock	Corrosion, damage to chain-link fence or barbed wire	Monthly
	East gate and lock	Corrosion, damage to chain-link fence or barbed wire	Monthly
Container filling and storage areas			
	Container placement and stacking	Aisle space, height of stacks	Weekly
	Sealing of containers	Open lids	Weekly
	Labeling of containers	Improper identification, date missing	Weekly
	Containers	Corrosion, leakage, structural defects	Weekly
	Segregation of incompatible wastes	Storage of incompatible wastes in same area	Weekly
	Pallets	Damaged (e.g., broken wood, warping, nails missing)	Weekly
	Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Curbs	Cracks, deterioration	Weekly
	Warning signs	Damaged	Weekly
	Access	Blocked or restricted	Weekly

FIGURE 5

SAFETY AND EMERGENCY EQUIPMENT INSPECTION LOG SHEET

Inspector's Name/Title_____

Date of Inspection_____(Month/Day/Year) Time of Inspection_____(Military Time)

Item	Types of Problems	STATUS		Obserations	Date and Nature of repairs/remedial action
		OK	Reject		
Universal absorbents ½ lb. pillows, 60 minimum	Out of stock				
Citric Acid - 5 lb. package (granular or powder) - 2 minimum	Out of stock				
Sodium Bicarbonate - 5 lb. package - 2 minimum	Out of stock				
For emergency use only, minimum 2 closed head, unlined 55 drums	Out of stock				
83 gallon steel salvage drums - 3 minimum	Out of stock				
Emergency showers - One in oil house, adjacent to Hazardous Waste filling area. One in Dept. 412, adjacent to Hazardous Waste storage area. Two in Plating Dept.	Water pressure, leaking, drainage				
Face shield - One in Oil House. One in Storage Area.	Missing, broken or dirty equipment				
Chemical cartridge respirators for organic vapors and acid gases.	Minimum stock (3)				
Self-contained breathing apparatus Sott Air Pack type	Air quantity in reserve, air delivery system, moisture in tank (cold weather)				
Fire extinguishers	Needs recharging				

FIG. 6

SAFETY AND EMERGENCY EQUIPMENT INSPECTION LOG SHEET

Inspector's Name/Title_____

Date of Inspection_____(Month/Day/Year) Time of Inspection_____(Military Time)

Item	Types of Problems	STATUS		Obserations	Date and Nature of repairs/remedial action
		OK	Reject		
Fire alarm system	Power failure				
Telephone system	Power failure				
Public address system	Power failure, speakers				
Generators	Inoperative				
Emergency lighting system	Battery failure, lights				
First Aid equipment and supplies	Items out of stock or inoperative				
Protective clothing, flame resistant, disposable, 2 minimum	Holes, normal wear and tear Out of stock				
Facility fence	Corrosion, damage to chain link fence or barbed wire				
Main gate and lock	Corrosion, damage to chain link fence or barbed wire; inoperable lock				
East gate and lock	Corrosion, damage to chain link fence or barbed wire; inoperable lock				
Container filling and storage areas	Corrosion, damage to fence, inoperable locks				

FIG. 6

CONTAINER FILLING AND STORAGE AREA INSPECTION LOG SHEET

Inspector's Name/Title_____

Date of Inspection_____(Month/Day/Year) Time of Inspection_____(Military Time)

Item	Types of Problems	STATUS		Obserations	Date and Nature of repairs/remedial action
		OK	Reject		
Container placement and stacking	Aisle space, height of stacks				
Sealing of containers	Open lids				
Labeling of containers	Improper identification, date missing				
Containers	Corrosion, leakage, structural defects				
Segregation of Incompatible wastes	Storage of incompatible wastes in same area				
Pallets	Damaged (e.g. broken wood, warping, nails missing)				
Base or foundation	Cracks, spalling, uneven settlement erosion, wet spots				
Curbs	Cracks, deterioration				
Debris and refuse	Aesthetics, possible reaction with leaks				
Warning signs	Damaged, missing				

FIG. 9

AREA FOR CONTAINER NO. - THREE DIGITS

AREA FOR I&LSD TERMINOLOGY

AREA FOR CELL NO. -SINGLE DIGIT

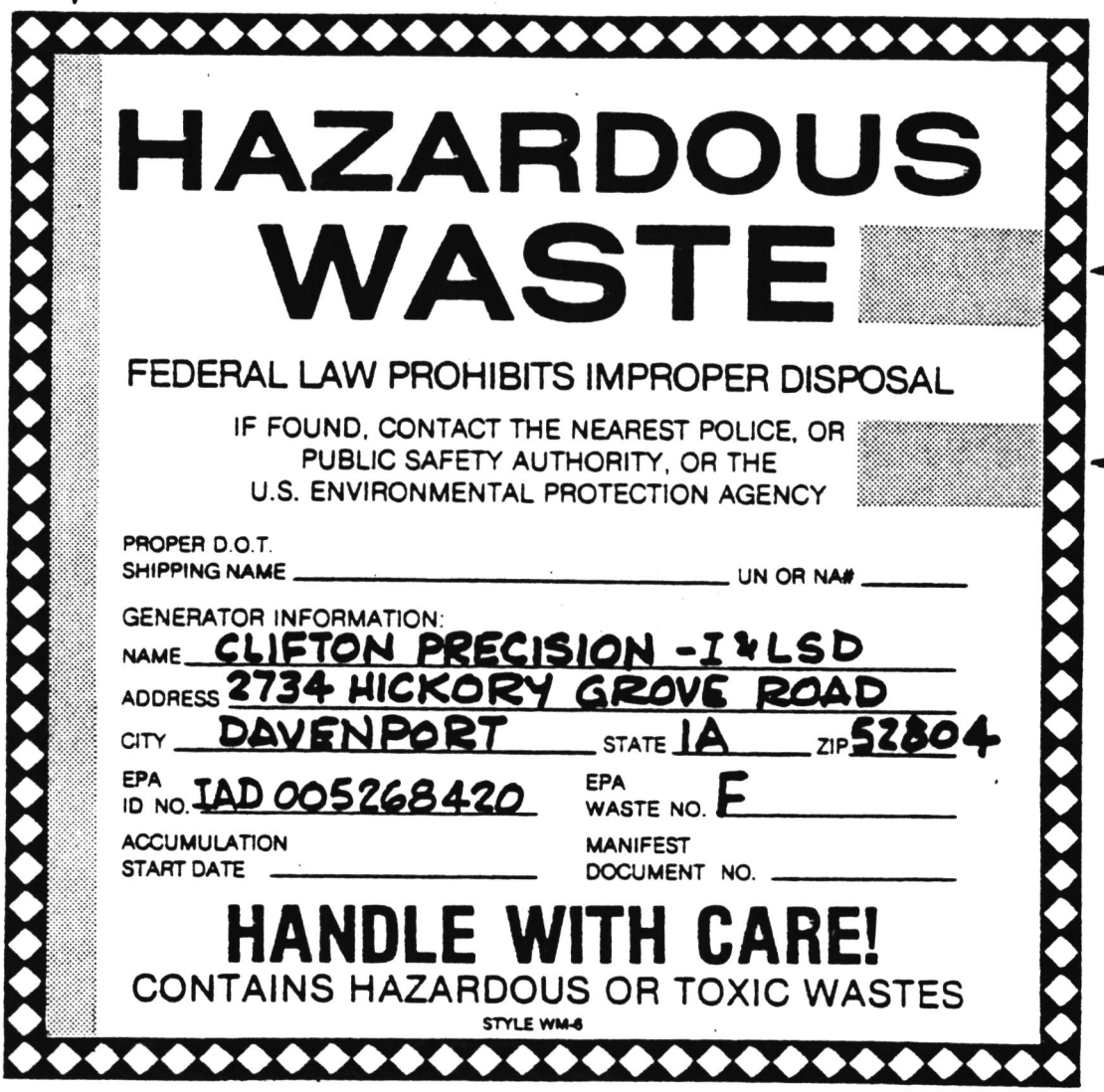
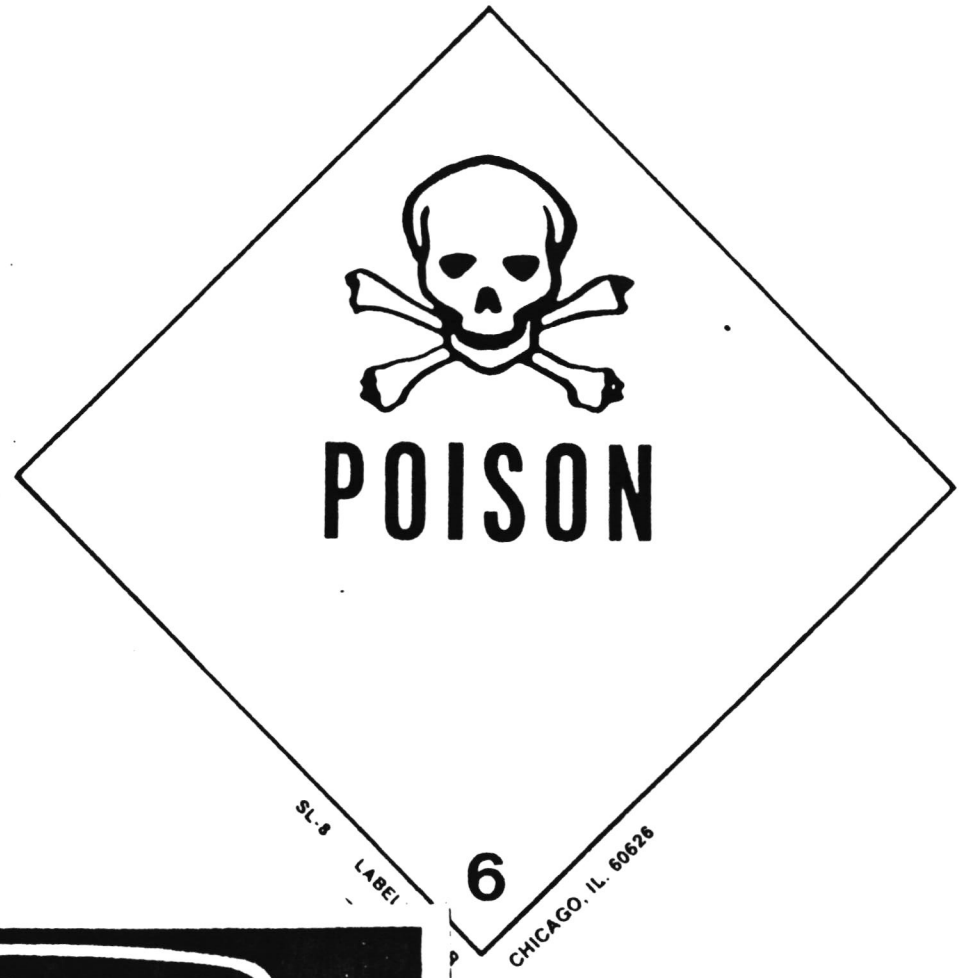


FIGURE 7



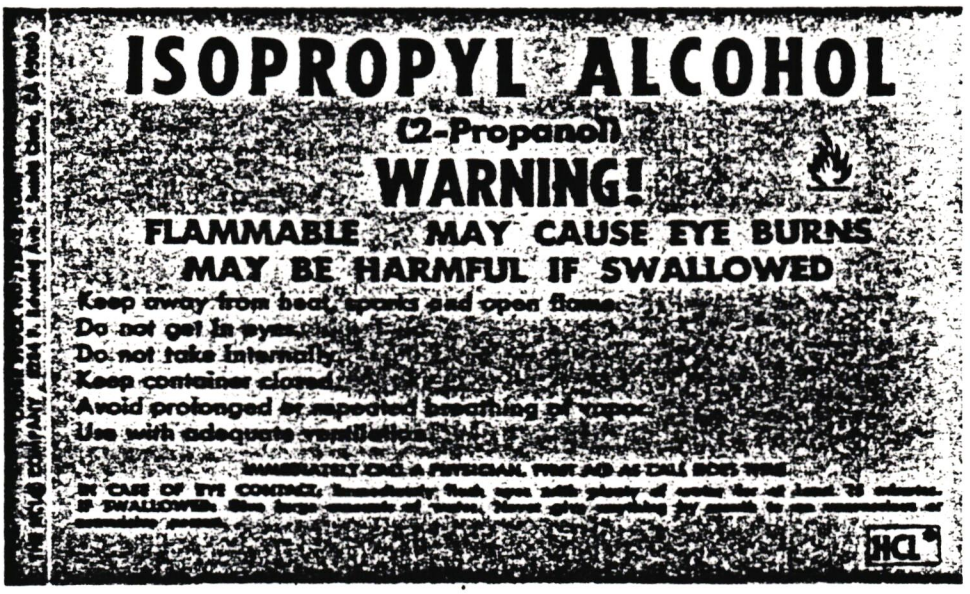
DANGER

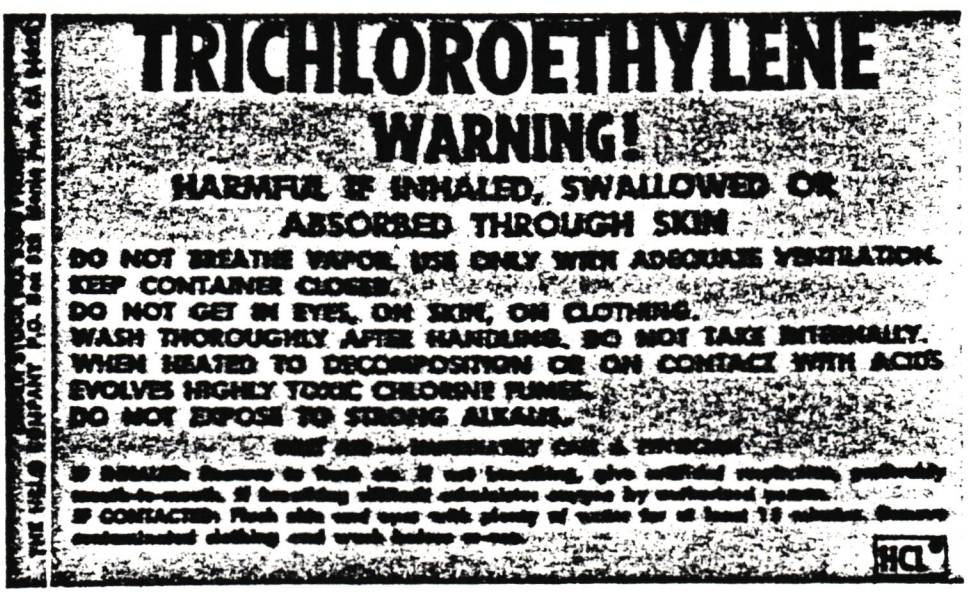
ACID

DANGER

CAUSTIC

W H BRADY CO. STOCK NO. 46127


ISOPROPYL ALCOHOL
(2-Propanol)
WARNING!
FLAMMABLE - MAY CAUSE EYE BURNS
MAY BE HARMFUL IF SWALLOWED
Keep away from heat, sparks and open flame.
Do not get in eyes.
Do not take internally.
Keep container closed.
Avoid prolonged or repeated breathing of vapor.
Use with adequate ventilation.
IMMEDIATELY CALL A PHYSICIAN. TREAT AND AS DIRECTED.
IN CASE OF EYE CONTACT,
IF SWALLOWED,
HCL


TRICHLOROETHYLENE
WARNING!
HARMFUL IF INHALED, SWALLOWED OR
ABSORBED THROUGH SKIN
DO NOT BREATHE VAPOR. USE ONLY WITH ADEQUATE VENTILATION.
KEEP CONTAINER CLOSED.
DO NOT GET IN EYES, ON SKIN, OR CLOTHING.
WASH THOROUGHLY AFTER HANDLING. DO NOT TAKE INTERNALLY.
WHEN HEATED TO DECOMPOSITION OR ON CONTACT WITH ACIDS
EVOLVES HIGHLY TOXIC CHLORINE FUMES.
DO NOT EXPOSE TO STRONG ALKALIS.
IF INHALED,
IF CONTACTED,
HCL